



Published on the 15th of each Month by

THE INDIA RUBBER PUBLISHING CO.

No. 192 WORLD BUILDING, NEW YORK, U. S. A.

JNO. R. DUNLAP.

H. C. PEARSON.

Vol. 4.

JULY 15, 1891.

No. 4.

SUBSCRIPTIONS: \$3.00 per year, \$1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

DISCONTINUANCES.—Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

Trade supplied by the American News Co. and all its branches.

Entered at New York Post Office as mail matter of the second-class.

TABLE OF CONTENTS.

	PAGE.
How to Retain a Foreign Market	269
Unprecedented Rubber Shipments.....	269
The Star's Receiver Files an Inventory.....	270
The Central Rubber Company.....	270
An Unduly Excited Editor.....	270
The Recovered Rubber Combination.....	271
Obituary.—Albert L. Coolidge.....	271
*New Goods in the Market.....	272
An Interesting Boiler Test.....	273
Every-day Electricity.....	274
The Celluloid Combination.....	275
Current Gleanings.....	275
Eucalyptus Gum and Oil.....	276
*The Minute of Rubber Shoe Making.....	277
The Successful Retailer.....	278
Guatemala's Decreasing Rubber Supply	278
Bank Bills of India Rubber.....	278
Baron de Gondoriz.....	279
A Guide for Salesmen.....	280
Letters to the Editor.....	281
Recent Rubber Patents.....	281
Working up in a Rubber Factory.....	283
India Rubber Heels for Walking Shoes.....	284
Toes That the Wind Blew Through.....	284
*A Mechanical Heater Man.....	285
A Substitute for Ivory Billiard Balls	285
A Big Biscuit	285
The Status of the Trade Journal	286
It Has a Rubber Tire.....	286
Trade Notes.....	287
The Rubber Market.....	xix
Waterproofing and the Tariff.....	xx
Vulcanizing Rubber by the Cold Process.....	xx

*Illustrated.

How to Retain a Foreign Market.

A PROPOS to both our editorials,—one in the May number on "Foreign Trade and how to Cultivate It," and another in our June issue, entitled, "How to Retain a Foreign Market," is the following extract from the *Commercial Bulletin*.

"If we expect to capture and hold foreign markets for the sale of our surplus products, the maintenance of the character and quality of our goods is of the first importance. Our cotton manufacturers retain their hold on the China market against fabrics from the established superiority of their goods. On the other hand the decline in the exports of dairy products in recent years has been caused by the attempts to impose an inferior grade on buyers. The falling off in our cheese trade for instance is directly traceable to a distinct deterioration of the standard coupled with the advance of the Canadian product in the same period, in quantity and quality. We have thus played right into the hands of our rivals. The exports of filled cheese, a compound of skimmed milk and grease, or stale butter to Liverpool has resulted very injuriously to the American cheese trade.

"The Secretary of Agriculture calls attention to the fact that our butter exports have never recovered from the loss of confidence engendered in the British market by similar practices in the manufacture of butter for export. During the past decade there has been a steady falling off in quantity and in price in the butter exports. Our exports of cheese for the past five years averaged 88,000,000 pounds annually at rising nine cents a pound, while for the first five years of this decade they averaged nearly 120,000,000 pounds at eleven cents a pound.

"It is of the utmost importance to the interests of the United States, agricultural or mechanical, that we maintain and extend our foreign markets. No efforts can be effectual in this respect unless amply sustained by the character of the products we send abroad. The name American must be made synonymous with absolute integrity."

Unprecedented Rubber Shipments.

THE imports of India rubber continue on an enormous scale, the figures reported by the Treasury Department for the current fiscal year being greatly in excess of any heretofore recorded. The comparative statement below is for periods of eleven months, the fiscal year beginning July 1, in each calendar year:

	Value of Imports.
Eleven months ending May 31, 1886.....	\$10,684,701
Eleven months ending May 31, 1887.....	12,684,356
Eleven months ending May 31, 1888.....	14,861,205
Eleven months ending May 31, 1889.....	11,683,717
Eleven months ending May 31, 1890.....	13,882,628
Eleven months ending May 31, 1891.....	17,076,655

From these figures it seems certain that the total for the fiscal year just closed will aggregate at least \$5,000,000 more than the average for the preceding five years. The fact that, despite such heavy shipments, prices of crude rubber should be maintained at the prevailing high figures, is evidence of a wonderful demand for this commodity. Two other facts which show the great consumptive demand in this country are (1) that the imports are only about equal to the wants of the manufacturers and (2) that but a comparatively insignificant share of the manufactured product needs go abroad for a market. Of the heavy imports of

crude rubber for the past eleven months only \$584,950 worth were exported unmanufactured.

Our exports of rubber goods are, however, growing in extent, while our imports in that line have remained at a standstill, as this official statement will show :

	Value Exports.	Value Imports.
Twelve months, 1885-86.....	\$664,304	\$233,532
Twelve months, 1886-87.....	834,304	266,031
Twelve months, 1887-88.....	866,867	343,306
Twelve months, 1888-89.....	831,748	236,227
Twelve months, 1889-90.....	1,080,307	267,647
Eleven months, 1890-91.....	1,166,647	327,060

The last Treasury Department publication gives these details of the rubber trade, making comparisons of May, 1891, with the same month in 1890; also of eleven months ending May, 31, with a corresponding period in the preceding year :

DETAILS.	Month ending May 31st.		Eleven months ending May 31.	
	1891.	1890.	1891.	1890.
Imports.				
India rubber and gutta percha, crude, pounds.....	2,245,641	3,503,255	33,000,500	31,850,097
Value of same, dollars.....	1,333,063	1,929,930	17,076,655	13,882,628
Value of manufactures, dollars.....	23,036	24,042	347,050	329,393
Exports.				
Rubber boots and shoes, pairs.....	10,814	3,750	108,176	164,217
Value of same, dollars.....	6,530	4,503	134,452	140,286
Value of other manufactures of rubber and gutta percha, dollars.....	107,357	79,548	1,032,135	830,234
Total value of domestic manufactures, dollars.....	115,816	84,051	1,166,647	979,509
Crude rubber, dollars.....	346,865	13,082	584,950	142,484
Foreign manufactures of rubber, dollars.....	50		2,113	5,460

The Star's Receiver Files an Inventory.

O. O. BOWMAN, Receiver for the Star Rubber Company of Trenton, has filed an inventory of all the estate, property and effects of the Star Rubber Company. The assets are placed as follows :

Real estate.....	\$120,000.00
Machinery.....	49,783.34
Personal property.....	11,562.02
Engines and other supplies.....	4,787.89
Manufactured stock.....	34,023.16
Stock in process of manufacture.....	9,363.49
Raw material.....	58,599.47

Of the accounts receivable \$21,097.96 are good and \$9,806.66 are doubtful.

Net balance due from agency accounts.....	\$102,573.00
Cash in the safe.....	244.13
Cash balance in various banks held by them against maturing paper.....	9,618.47
Twenty-six unaccepted drafts on the Central Rubber Company for dividend declared.....	2,995.00
Town warrants held by First National Bank as collateral on demand loan.....	7,228.30
In hands collecting agency.....	927.45
Bills receivable held by First National Bank as collateral on note.....	8,519.78
Notes on hand considered doubtful.....	26,818.49
Considered good.....	8,316.67
Insurance scrip, face value, \$338.00, estimated worth 65 per cent.....	219.70
Five hundred shares of the capital stock of the Northwestern Rubber Company of Chicago, par value.....	50,000.00

This last named company is in the hands of a receiver and the

above stock has been assigned as collateral security to Mahlon Hutchinson and Jonathan Steward for endorsements for the Star.

The total assets are placed at \$536,515.13.

The liabilities are scheduled as follows:

Mortgage.....	\$21,000.00
Accounts payable.....	56,455.41
Bills payable, under mortgage.....	165,768.15
Not under mortgage.....	145,173.94
Total.....	\$388,397.50

Discounted liabilities represent paper of the customers of the Star which has been discounted for the company's benefit, and which has been secured by mortgages on the property of the company. The total is \$154,840.28.

Other notes represented in schedule "F," which have also been discounted for the Star Rubber Company, make the total direct and contingent liabilities \$681,441.02.

In addition to this are the ten mortgages filed at midnight, May 25.

The Central Rubber Company.

THE "Trenton Trust," or the Central Rubber Company, is a thing of the past, that is to say, it is not exactly dissolved, for that is not a possibility. All of the companies in Trenton, however, with two exceptions, have repurchased their stock from this company and are therefore out of it. This combination, it will be remembered, started about five years ago. In the beginning it absorbed the Star Rubber Co. and the J. F. Brook Rubber Co. Within a year the rest of the rubber companies in Trenton came in. The manufacturers, however, almost without exception, after a short time refused to live up to the demands that the trust made; and although a majority of their stock was held by the trust, they preferred to run their business on their own lines. It may be well to say here that the Central Rubber Co. was not, nor had it anything to do with, the Central Rubber Selling Co., although the two were often confused, even in the city in which they existed. At the time of the purchase of their own stock by the various rubber companies the officers of the trust were Joseph A. Whitehead, president, and Thomas A. Bell, secretary and treasurer.

An Unduly Excited Editor.

THE editor of our London contemporary, the *India Rubber Journal*, in the sudden heat of passion, writes in this excited style under date of June 8 :

AN ASTOUNDING STATEMENT.—The journal recently established at New York, called THE INDIA RUBBER WORLD, in its issue for May 15, makes the following astounding statement :

"The London *India Rubber Journal* has further intimated that the American rubber manufacturers have surpassed those of any other nation."

We flatly deny that we ever penned so idiotic an assertion. It is simply a well-known fact that, as regards quality, the best British rubber goods are not surpassed, or even equalled, by the rubber manufacturers of any other nation in the world. We call upon our contemporary to give chapter and verse for his assertion.

What will the *Journal* say of the sanity of this paragraph when we point out that what it has taken offense at in THE INDIA RUBBER WORLD is a translation from the Dresden *Gummi-Zeitung*, duly credited to that paper? Will it "flatly deny" having been somewhat hasty, and that without provocation?

We should not go so far as to assert that the *Journal* ever intimated anything to the credit of our American manufacturers, but we are prepared to suggest that it might, without mistake, not only intimate but assert that "American rubber manufacturers have surpassed those of any other nation."

The Recovered Rubber Combination.

OF late the newspapers the country over have printed some remarkable accounts of a new rubber combination. The statements almost without exception have been erroneous, and have been regarded so by the rubber trade. The facts in the case are, that a number of prominent manufacturers of recovered rubber, namely, the Philadelphia Rubber Works, Loewenthal & Morganstern, Murray, Whitehead & Murray, the Derby Rubber Co., and the New Jersey Rubber Co., have united in forming the Rubber Reclaiming Co. This corporation has in turn taken a ten years' lease on the factories of each of the firms named, and having become the sole licensee of the Chemical Rubber Co., it is their purpose to manufacture recovered rubber by the chemical process upon an enlarged and greatly improved scale. The plan is to manufacture one grade of rubber continuously in some one of the mills, which from every point of view is best adapted to that class of manufacture; to assign another mill to the exclusive production of a different grade, and so on throughout the list. By this means a great economy in the cost of production can be accomplished, through the great efficacy of both the workmen and the mechanical appliances; and beyond this, a decided uniformity of excellence can be absolutely guaranteed. The operation of the various mills will also be closely regulated by the company, to the end that there shall be no costly recurrences of over-production, upon the one hand, and insufficient production on the other. In the general expense of conducting the business, a vast saving will be made in the salaries and travelling expenses of salesmen, and of the minor incidentals which swell the cost of numerous distinct concerns. By these means it is claimed the mere saving in the cost of production and conduct of the business will yield a handsome profit of itself, without involving an advance of prices.

In addition to this, in the past all these manufacturers have been buying old rubber shoes against each other, and thus forcing the price up. Now that they have consolidated, it will mean one buyer for the lot; and, in consequence, the old rubber shoes will, and indeed already have, dropped to their normal price.

Of course rubber manufacturers are inclined at first to look upon a combination among supply men with distrust. That there may be no feeling of this kind, the new con-

cern has at once lowered the price of recovered rubber, which under existing conditions they can afford to do. And we are also informed that influential manufacturers who have hitherto been making their own recovered rubber, have conceded that the new organization with such facilities could doubtless manufacture cheaper than themselves, and therefore they were willing to have that branch of the business taken off their hands.

The names of the officers of this company have already been published. Quite lately, however, Mr. Morganstern, the treasurer, has resigned and will go to Europe on account of ill health, his partner, Mr. Loewenthal, taking his place. Mr. Stotesbury, who is well known as a skillful rubber man, and who for years had charge of the sales of the Philadelphia Rubber Works, is to be the selling agent of the new company.

The future of the enterprise will certainly be watched with interest.

Obituary.

ALBERT L. COOLIDGE.

ON July 1st, after an illness of three months, Mr. A. L. Coolidge, president of the Pará Rubber Shoe Co., died at Brookline, Mass. Mr. Coolidge was essentially a self-made man, having learned the shoemaker's trade when but a boy, and rising steadily until he was at the head of a great firm, and the President of a most influential corporation. It was in the leather shoe trade that he passed the larger part of his business career, his connection with the rubber business dating back about ten years only, when the Pará Rubber Shoe Company was organized.

As an organizer Mr. Coolidge had few superiors, and it is acknowledged by all that his business abilities were of the highest order. He occupied many positions of trust and honor. He was one of the first directors of the Manufacturers' and Mechanics' Fair in Boston in 1881, the first one held. He suggested then, and was instrumental in having a complete boot and shoe factory employing one hundred hands running in the Fair building during the exhibition. He was a member of the Commission to the Centennial Exhibition at Philadelphia and at Paris, where he did much to attract attention to the boot and shoe industries.

He was very prominent socially, was a member of the Algonquin, Commercial and other clubs, and Vice-President of the Young Men's Christian Association. He was a member of the firm of Houghton, Coolidge & Co., a director in the Loan and Trust Co. and numbers of Boston banks.

Business reverses, the condition of the rubber trade, and the load that he was carrying in connection with the Pará Co., were thought to have unsettled his mind, and he was taken to Dr. Channing's Sanitarium at Brookline, Mass. While there he died of cerebral hemorrhage. He was 59 years old, was borne in Natick, Mass., and leaves a wife and two children.

New Goods in the Market.

TO MANUFACTURERS AND PATENTEES:

It is our aim to embody in this department descriptions and illustrations of all the latest novelties introduced in the market, to the end that jobbers, retailers and buyers of rubber goods generally may look here for information as to everything new that each month or season brings forth. Manufacturers and patentees are, therefore, most cordially invited to co-operate with us in making the department as complete and attractive as possible—the distinct understanding being that no charge whatsoever, either direct or indirect, will be made for these publications. Our reward will come through giving our readers valuable information; and that will be reward enough if manufacturers but give the information freely and in all cases at the earliest practicable moment.

In forwarding descriptions of new goods, be careful to write on one side of the paper only; be brief, but always write enough to give the buyer a clear idea of the article you offer; give your full address, plainly written; and in all cases send a small illustration or wood cut if you have one.

ALTHOUGH the bustle has been doomed and has sunk into obscurity, yet womankind is not satisfied, and a makeshift is in sight, or, rather, it is in use and not in sight. It has taken the form this time of artificially developed hips.

It is the same old bustle that has reappeared, but it is cut in two, and the two halves moved around, one on each side.

A lady who knows all about such things, when complimented on her increased robustness, laughed, blushed and said:

"It's not me, it's rubber. False hips are the latest craze, and one that is becoming popular with wonderful rapidity. The pads are made of inflated rubber bags. They are not so inconvenient as the old-time bustle, and not much more of a nuisance to wear. Go down Fifth Avenue any day and you will be surprised at the number of remarkably broad-hipped women you will meet. They have grown wonderfully stout in the past month."

"Why do they do it?"

"Oh, the great advantage to be gained in appearance is the smaller look it gives to the waist. I don't think there is any other reason. That's quite enough for any woman."

"The fashion has its serious drawbacks, too. Sometimes the pads slip around, and the effect is unpleasant. Again, too, I am always in fear that a pin will puncture one of the things, and that one side of me will go off with a loud report. You can imagine how lop-sided one would look after such an accident. It's horrible to think of."

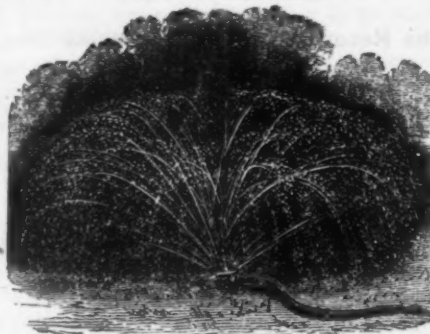
—Under the heading "the rubber does it," comes a bright circular describing a rubber wash-board. It is well known that



the zinc wash-boards are always giving out, and have even produced blood poisoning by mangling the fingers of unfortunate washerwomen. This rubber board, therefore, in that it is safe and durable, merits an extended description. In the cut the heavy lines show the strips of rubber. The caution, "rub lightly," shows that little work is required, and that it is not "elbow grease" that is needed now. The Massachusetts Charitable Mechanics Association at the Exhibition of 1890 gave to it the richest medal and highest award which they ever give to this class of exhibits. Thus expert judges declare it to be of the highest superiority. A prominent Boston business man says of it: "My wife thinks your 'Rubber Wash-board' is a jewel. Says she cannot praise it too

highly; it does away with the wear and tear of the clothes and does the work in half the time of an ordinary wash-board." James Donaldson, Buyer at Hollander, Bradshaw & Folsom's Kitchen Goods Dept. Manufactured by A. P. Williams, 31 Cornhill, Boston, Mass.

—The ideal lawn sprinkler is one that will distribute in the finest possible spray a small quantity of water over a large surface. Many sprinklers claim to do this, while but few really accomplish it. One that is said to be perfection in this respect is the sprinkler which bears that name; as it by actual measurement will cover an area 40 feet in diameter with an ordinary water pressure. Of course if less area is to be covered, the lessening of the water supply will easily accomplish it. Aside from



lawn use, the perfection is used in systems of sprinkling for market gardens and nurseries. In this case the sprinkler being attached at intervals to iron pipes, the supply of which is controlled by valves. It may also be applied to the standard or tall lawn sprinklers of any kind. Its popular form, however, is that shown in the cut, where the sharp arm is thrust into the turf, keeping the sprinkler in position for as long a time as is desired. Manufactured by King & Goddard, Pearl Street, Boston, Mass.

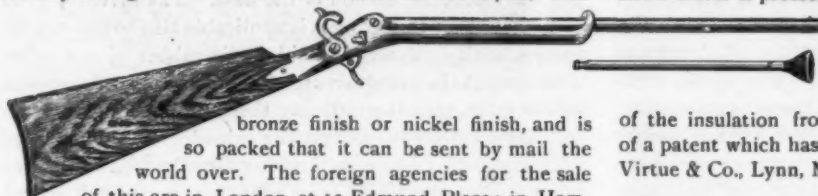
—Just at this time tailor made garments in the line of rubber clothing for ladies are known to be all the rage. A garment of this sort, that is exceedingly stylish and at the same time a



sensible one for summer wear is that shown above. It is made with a skeleton back, and has the latest shape in large flowing

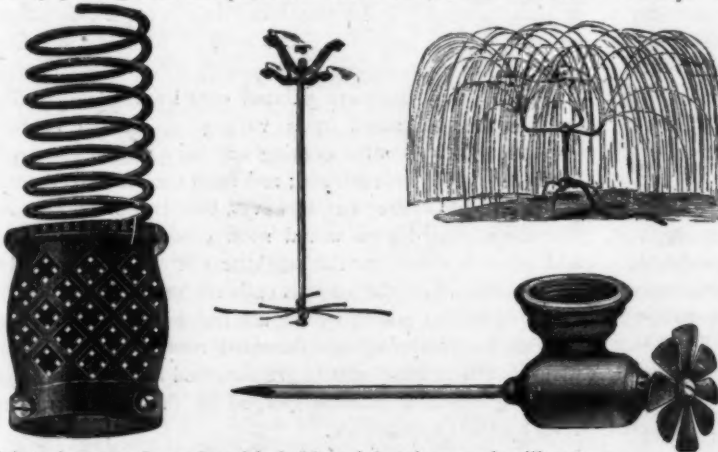
cape, which arrangement makes it cool and comfortable; and with its light weight a garment that is singularly adapted for midsummer storm. This is one of the new and popular styles that have been brought out of late by the Kalloch Rubber Manufacturing Co., of Boston, and which are winning for them a prominent place in the trade.

—The rubber vacuum tipped arrow and the neat little pistol that goes with it are by this time pretty well known the world over. In the same line is the new harmless rifle, which is made to shoot a rubber tipped arrow, and will without question be popular not only with young folks, but with people of all ages. This rifle is so simple that it is almost impossible to get it out of order, and the missile that it discharges is so harmless that it is absolutely impossible for any one to be hurt by it, or for any damage to be done. It is made in two styles, with



bronze finish or nickel finish, and is so packed that it can be sent by mail the world over. The foreign agencies for the sale of this are in London, at 13 Edmund Place; in Hamburg, 40 Admerilitat Strasse; in Bombay, No 31 Elphinstone Circle; patented and manufactured by the Elastic Tip Co., Boston, Mass., U. S. A.

—The accompanying cut represents the Crescent Lawn Sprinkler which the Metropolitan Rubber Co., New York, have lately put on the market. It is very efficacious in sprinkling a surface 36 feet in diameter. It is claimed for it that it can be easily put together, the parts will not loosen, it has no weak



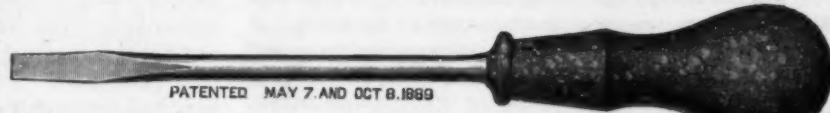
joints, is strongly made with babbeted bearings, and will not clog with dirty water. It sells for \$2.50 each. Another form which is placed in the ground by a single pointed support, which will spray the water from twenty-five to forty feet, and is made to fit a 3/4-inch hose coupling. Sells for \$4 per dozen, or nickel plated, at \$6 per dozen.

—A new use for the ordinary rubber teething ring is as a compressing pad on dumb waiters, for which many thousands are sold, and where it is very effective.

—Among the many rubber safe-guards that are to-day in use by electricians and by linemen, none is oftener used than the insulated screw-driver. For this insulation, by the way, it is not enough that the handle simply should be of rubber, it is



PATD. MAY 17, 1881. JULY 5, 1887. AUG 9, 1882



PATENTED MAY 7 AND OCT 8, 1889

INSULATION PATENTED SEPT 11, 1888. APR. 9, 1889.

necessary for complete safety that the rubber should follow the metal clear down the length of the screw-driver to the place where it begins to flatten out for the blade portion. Where a screw-driver is protected in this way there is no chance for a workman to get a shock, and there is the further advantage that he can get a singularly strong hold upon the screw-driver while working. The extension of the insulation from the handle to the blade is the subject of a patent which has been secured by Mr. Virtue, of Spinney, Virtue & Co., Lynn, Mass.

—By the middle of July the sea-coast is well lined with bathers, most of whom have good times. When, however, a sharp shell, a broken bottle, or a bit of rock splits open the foot of the festive bather it dampens their ardor. To prevent this is the office of the Bathing Shoe. It also serves to keep out the sand, which is so apt to stick to wet feet with provoking tenacity. These shoes are made of



fine white duck, with rubber soles, and are bound in red, white or blue. Manufactured by John H. Parker, 103 Bedford Street, Boston, Mass.

An Interesting Boiler Test.

AT Jewett City, Conn., a boiler test was lately made that showed remarkable results in quick steaming. They are of interest to Rubber men in that one of the largest rubber mills in the country has just been fitted with the same kind of boilers which have shown results that are identical with those we print.

TIME OF RISING STEAM FROM COLD WATER.

5 pounds steam, 2' 35."	40 pounds steam, 5' 40."
10 pounds steam, 3' 35."	45 pounds steam, 5' 55."
15 pounds steam, 4' 20."	50 pounds steam, 6' 5."
20 pounds steam, 4' 40."	55 pounds steam, 6' 17."
24 pounds steam, 5' "	60 pounds steam, 6' 28."
30 pounds steam, 5' 15."	65 pounds steam, 6' 40."
35 pounds steam, 5' 30."	70 pounds steam, 6' 52."

At 70 pounds steam pressure the pump was started, and was run from 300 to 400 strokes per minute, delivering the water through four 1 1/4-inch nozzles at 80 to 100 pounds water pressure with ease. The boiler spoken of is the Almy Water Tube Boiler, made in Providence, R. I.

Every-day Work in the Factory.

BY NICK R. AUGUR.

IN spite of the great amount of experimentation that has been indulged by rubber manufacturers, the question of fine colors in finished rubber goods is often coming up, and is one about which few seem to have definite knowledge. This is undoubtedly because the larger manufacturers will not trouble themselves particularly to strive after beauty in rubber goods as much as they do for utility. A letter comes to me quite recently asking what compound will produce reds, greens, yellows, and other colors. For the red, as we have before indicated, English vermilion is the best, but it is of course a costly color. It is about all, however, that can be used in hard rubber to give a handsome effect. A certain proportion of Golden Sulphuret of Antimony mixed with vermilion will produce a very fine red in soft rubber. For the cheaper lines of goods, such as red hose, an iron oxide is used, which if not admitted in too large proportions, will give a very good effect. For valves, tennis soles and the finer grades of druggists' sundries, antimony is still used; and where wisely compounded and carefully vulcanized, produces very satisfactory results. In druggists' sundry work a certain amount of venetian red is often used for producing the well-known maroon rubber; this is also sometimes secured by a mixture of Golden Sulphuret of Antimony and a very little litharge; but in this no two batches are alike, which is a positive disadvantage. For white rubber, oxide of zinc is about all that is used; although there is a tradition of white lead being applied in tubing, and the goods bleached after vulcanization by some process not now in use. Where rubber is cured by the acid process, almost any color can be secured by the admixture of a variety of pigments. It will be noticed that colors in rubber clothing are not nearly as popular as they were some few years since. This is probably because the fashions run more to double texture garments, or else to garments with the fabric outside and the thin pure gum coating on the inside. We have by us a copy of a foreign patent that is neither new nor old, but which is intended to cover the ground of color making in rubber, either by the use of pigments, liquid dyes or other coloring matters. The process consists in applying to the rubber surface by blocks, rollers or stamps, designs which are afterward covered by a thin, transparent coating of India rubber. This process would be followed something after the fashion of calico printing, except that India rubber in solution would be mixed with the colors to make them adhere. In detail the process is something like this: The fabric is first coated to the required thickness on the spreading machine, anywhere from one to eight coats being applied, of whatever color that is desired for the groundwork of the pattern. If this is to be on a black or dark colored ground, there is mixed with the rubber which forms the last coating a little starch or any mineral powder that will render the surface non-adhesive, and yet to a certain extent absorptive. This fabric is then partly vulcanized, either by steam or dry heat, or by any of the acids or vapor processes. The idea of this vulcanization is to

render the surface sufficiently hard to overcome the effects of creasing during the process of printing, and at the same time leave it soft enough to allow the protective coating to unite with the printed coating. The cloth is then printed upon by the blocks or rollers, which are engraved with the desired pattern, and which admits of any single color or combination of colors. The colors in this case are not high priced; but are simply such as are used in ordinary calico printing; and, while they are usually mixed with India rubber in solution, they may be mixed with resinous gums, as all that is required is to make a paste that will be sufficiently adhesive. That these colors may be absolutely fixed and thoroughly protected, the whole surface is then coated very thinly with a transparent solution of India rubber; that is, either with a pure gum compound, or one composed simply of rubber, and not over 50 per cent. of whitening. For this process the inventor acknowledges that vulcanization performed by solution of chloride of sulphur and bisulphide of carbon is the best. The inventor goes on to state that this process is applicable also to non-textile articles, such as sheets of solid India rubber of any color, to be used in the manufacture of balloons, tobacco pouches, hollow balls, etc. In producing these designs on sheet rubber, the sheet is first run on the calender to the required thickness, either on smooth rubber faced cloth, or on sized calico. The surface is then prepared, partly vulcanized, printed with designs, coated with transparent or semi-transparent India rubber, and finished with the starch process. The sheet may then be thoroughly vulcanized or not, as the character of the goods may determine. If it is to be made into balloons, tobacco pouches or other goods of that sort, it must be stripped from the calender apron, the vulcanizing process carried out when the articles have been made up. Experiments of this sort that we have seen have not been particularly successful. We remember that in one factory that we visited some beautiful goods were to be made in India rubber, of a light colored compound which were nearly vulcanized and then were painted over by hand with different colors, obtained by a variety of colored rubber cements. As this outer coating was very thin, it required but little heat to vulcanize it; and for a time it looked very well indeed. There was, however, this trouble about it, that the sulphur bloom would soon come from the goods and serve to obliterate the brightness of the coloring. In spite therefore of the various calls for new and handsome colors in rubber goods, we cannot feel but that to the end of time the majority of vulcanized rubber goods will be black. The neatest effects are obtained in this color, and rubber goods as a rule are gauged by their worth rather than by their appearance.

A YOUNG sailor recently called at one of the rubber factories in New England, and in the course of his conversation spoke of having been up Indian River in Florida, past the Winans plantation at Eden, and having secured a ball of rubber from some planter, which he described as being remarkably elastic, so much so that it could be easily made to bound from twenty to thirty feet in the air; all of which goes to show that Florida may one day be a rubber producing district.

The Celluloid Combination.

PROCEEDINGS have been brought by the Attorney-General of the State of New York, to dissolve the Celluloid Novelty Co. and the Celluloid Brush Co. The applications were made in April last by Thomas H. Unckles of Brooklyn, a stockholder in both companies. The reason for these proceedings is found in the fact that, these two companies sold their franchises and properties to the Celluloid Company, which was incorporated under the laws of New Jersey. The Celluloid Company claims that it has violated no law, that its purchase was outright, the same as if it had purchased so much real estate. The different companies made different articles, and no competition was destroyed by its act; in which respect it was widely different from a trust as commonly understood.

To determine certain legal rights the Celluloid Company has in its turn made a friendly application for a receiver of each of the two companies in question, which if granted, will cause a proper distribution of the property, and settle all disputed questions. The parent corporation owns in addition to the two corporations mentioned, the American Zylonite Co., the United Zylonite Co., and the Lithoid Co. It has a capital of six million of dollars, the stock being owned by about 250 stockholders, one or two holding as much as \$500,000 in amount, and several over \$100,000. The people composing it are generally wealthy, and there is no floating stock. The opposing stockholder has a comparatively small holding. The company holds valuable patents, and a property which represents the acquisition of years of labor and experience.

At the annual meeting of the Easthampton rubber thread company of Easthampton, Mass., G. H. Newman and John Mayher had a ticket for directors, which would remove E. T. Sawyer from a hand in the management. But about 600 shares of stock changed hands and the Sawyer party came out victorious. The old board of directors, consisting of E. T. Sawyer, L. S. Stowe, G. H. Newman, J. B. Ford and John Mayher, met and voted a semi-annual dividend of 20 per cent. The vote was three to two. Newman, Ford and Mayher voting for the large distribution, which would embarrass the new board. When the meeting of stockholders was called there were 1964 shares represented out of 2000. There were two tickets, one containing the names of W. L. Boyden, G. H. Newman, John Mayher, F. W. Pitcher and J. H. Ford, while on the successful one were E. T. Sawyer of Easthampton, L. S. Stowe, Judge William G. Bassett, of Northampton, F. T. Ryder and F. W. Pitcher of Boston. Mr. Sawyer was then chosen president and F. W. Pitcher, clerk and treasurer. The new directors rescinded the vote to pay a 20 per cent. dividend and declared the regular semi-annual dividend of 6 per cent.

We take pleasure in directing the attention of our readers to the announcement of Mr. J. B. Romaine, of Rochelle, Park, N. J., which appears in our advertising pages with this issue. Mr. Romaine has been manufacturing a superior grade of recovered rubber for many years past at this point, and since 1886 he has confined his product exclusively to a single grade of stock, which is specially adapted for the purpose of mechanical goods manufacturers and also for clothing, carriage cloth and kindred branches of the trade. His product has an excellent reputation, and he has now equipped himself to enlarge his business and extend the line of his customers, and through THE INDIA RUBBER WORLD invites correspondence upon the subject. He assures us that his product is one that will stand the closest investigation, and he is at all times ready to meet the market, the quality of goods considered.

Current Gleanings.

BY LIGHTNING ARRESTER.

THE electrical business just now is enduring rather hard times and the demand is very slack. The aftermath of the financial stringency of last winter, whose effects have been more far-reaching and widely felt than many would imagine, has added its restrictive influence to the usual dullness of the summer season and complaints of hard times are pretty general throughout the electrical business. There has been some talk of a trust to be formed among the more prominent electrical supply houses in order to prevent ruinous competition and cutting of prices, but nothing definite has been arranged and the project will probably fall through as the interests are too conflicting to be easily brought together. One electrical concern, the Crosby Electric Company, which has been in existence only a comparatively short time but had made its name well-known by dint of persistent and extensive advertising, has failed for about \$10,000, and a much better-known corporation dealing in general electric supplies, namely, the Empire City Electric Company has decided to wind up its affairs and go out of business. Altogether things do not look very cheerful just at present and the usual re-awakening of trade in the fall is anxiously looked forward to by all hands.

The insulated wire manufacturers naturally suffer with the others as there is very little new work being done in electric lighting just now and the demand for good grades of wire is at its very lowest ebb. Almost the only people who are doing at all well are those interested in electric railway construction, as new electric roads or changes of power from horse or cable to electricity are constantly being projected. Electric railways do not use much insulated wire, however; the trolley wire is always bare and the feeder wires are only protected with "weather-proof" insulation, which, as is well-known, is not insulation at all in the proper sense of the word.

There are many people who would hail with delight the appearance of a properly protected or insulated trolley wire which would do its work well. The current carried by the trolley wire is not dangerous to human life, as so many people have been deluded into believing, but it is extremely dangerous to the instruments connected to the ends of any wires that happen to fall across it. The railway current is a very powerful one, and if it strays into apparatus containing fine wire that apparatus will be burned out in a jiffy. As the trolley wire is bare, a telegraph or telephone wire falling across it makes excellent contact, and the current consequently does stray, with the disastrous consequences referred to. At Albany the switchboard at the central telephone office has been destroyed twice in this manner, the damage amounting to tens of thousands of dollars. There is often a guard wire stretched above the trolley wire to prevent other lines from becoming crossed with the trolley, but as wire is generally in contact at some point or another with its protégé, and therefore charged with the same current, this remedy is not always as efficient as it might be. Insulated trolley wires have been devised with the upper part of the wire covered with insulating material, but as far as I know none has been put in use. The difficulty is that it is practically impossible to suspend a wire with absolutely no twist in it, and the slightest twist would bring the insulation at some point or another underneath instead of above; such a state of affairs would naturally give rise to trouble in supplying the cars with current. The inoffensive trolley wire has yet to be devised.

Electrical affairs generally occupy the attention of the law courts in the form of suits for infringement of patents, but in England, where the law's delays are as a rule somewhat less exasperating than they are in this country, electrical firms sometimes leave it to judge and jury to settle the differences which will occur even in the best regulated business circles. Some time ago the well-known English electric lighting firm of Crompton and Co. obtained the contract to light the town of Chelmsford, where the company's factory is established. Chelmsford being a country town has not yet acquired any settled views on the underground question, so Cromptons decided to put up overhead wires. They asked Phillips Brothers, a well-known firm of insulated wire manufacturers, to quote prices on insulated wire. Phillips Bros. make several different grades of wire, known respectively as A, B, C and D. Cromptons chose grade C, the best grade but one, insulated with vulcanized rubber and ordered a large quantity of it. More than 180,000 feet of the wire were supplied, and about 160,000 feet were put up. Then Cromptons discovered that the wire was no good, that the insulation was very poor in wet weather, that the rubber was full of cracks and could be torn off in short pieces. Consequently they brought suit for \$15,000 for breach of contract.

The defendants affirmed that the wire should not have been used for the purpose to which the plaintiffs put it. It was wire suitable for indoor work at a pressure of about 100 volts, but it was used for outdoor work at a pressure of 2000 volts, and the wire was not of the quality that should have been used for such work. Coils of the wire were tested under water and showed an insulation resistance of 510 megohms per mile. The plaintiffs said that C wire of good quality ought to show 1000 megohms per mile, and their experts said so too. To make a long story short, the plaintiffs won the case and the defendants gave notice of appeal. This lawsuit shows two interesting things: firstly, that a British jury does not flinch before the intricate questions involved in the discussion of the merits of vulcanized rubber, and the effects of volts on megohms; and secondly, that our cousins across the water even when they put up electric light wires overhead (a thing which we are often asked to believe that they never, never do) insist on having a very good quality of wire having a very high insulation resistance. Few American electric light companies (more's the pity) would think of putting up wire of such high insulation, namely, 1000 megohms per mile. I doubt whether there is a mile of overhead wire used for electric lighting purposes in New York City having one-tenth of that insulation, even in dry weather, and on a really wet night the insulation is practically *nil*.

Nevertheless, the underground work has gone ahead in New York very satisfactorily, considering all the difficulties that have been encountered. There is very much more electric light wire working under ground than most people imagine; it sums up to several hundred miles, and very little real trouble has been experienced in working despite the gloomy prophecies that were made when underground conduits became compulsory. There is not much variety between the different types of electric light cable in use in New York. All, or almost all, are lead-covered, and the insulating materials are either rubber in the form of Bishop white core, or one or other of the well-known compounds of rubber. There is a good deal of cable insulated with fibrous material saturated with insulating compound and quite a considerable length of paper insulated cable.

The question of connecting light-ships and light-houses with the mainland by means of submarine cables is being actively

discussed just now, both in this country and in England. With regard to light-ships the great difficulty is in making an efficient connection for the cable at the ship, owing to the constant movement of the vessel and its changes of position with the tide. After a great deal of experimenting this difficulty has been overcome by one of the English cable companies, and it is stated that telegraph communication can be maintained between light-ships and the shore with very little danger of interruption. A scheme is now on foot in England to place the prominent light-ships and light-houses all round the coast in connection with the general telegraph system, and that such a measure would be the means of greatly adding to the value of the life saving corps there can be no question. The New York *Herald* is doing good to all those who go down to the sea in ships by urging that similar steps be taken in this country. It is a subject of very great importance and numerous instances of shipwreck might be cited where had such communication existed many lives might have been saved, and serious maritime disasters averted entirely. For such work only short lengths of submarine cable would as a rule be required, and the cable could easily be manufactured in this country. It is certainly to be hoped that the discussion will not be allowed to die out fruitlessly.

The coming convention of the National Electric Light Association to be held either next month or early in September at Montreal, promises to be a very important affair. The Canadian hosts of the American electric light men are making preparations to give their guests a right royal welcome, and the convention is looked forward to with a good deal of enthusiasm both there and here. Quite an ambitious electrical exhibition is to be given during the convention; the supply men always make a point of showing a representative line of samples of their wares, but this feature of the convention promises at Montreal to outshine all previous convention exhibitions. The show is to be held in the Victoria Skating Rink, a very roomy building, and an idea of the elaborate preparations that are on foot may be gathered from the rumor that the exhibit will be open to the general public on payment of a small entrance fee. A very large attendance of electrical men is expected and the Convention promises to set the ball rolling for a brisk renewal of trade in the fall.

The Central Rubber Co.

WHAT the newspapers call the Rubber Trust, or sometimes the Central Rubber Co., has been dissolved. It is, or was a local affair, although it started out with the promise of absorbing the whole rubber business. Indeed, such was the pronounced plan of its founder, one of the most indefatigable and successful workers in the rubber trade. It was formed about five years ago and embraced at first the Star and the Globe Rubber Works, of Trenton, within a year the Trenton, Mercer, Hamilton and Home Co's. had joined and thus all the Trenton concerns theoretically were to work as one. A few months' trial, however, demonstrated that it couldn't be a success and none of the trustees attempted to live up to the requirements of the combine, and it has been virtually dead ever since. When the trust was formed the various mills sold 51 shares of their capital stock into the new company and the dissolution consisted simply in buying this back again. Mr. Joseph Whitehead was president of the Central Rubber Co. and Mr. Thos. A. Bell, secretary and treasurer.

W. SYMINGTON, of Liverpool, and well-known in rubber circles, returned to England a fortnight ago.

The Minutiae of Rubber Shoe Making.

BY S. M. J.

I HAVE so often been asked by various people, both in the rubber trade and out, exactly how a rubber shoe is manufactured, that it occurs to me I may answer these questions all at once by writing an article for THE INDIA RUBBER WORLD, and by illustrating as far as I can by pen and ink drawings exactly what I do in this sort of making up. In the first place, the part of the shoe that in the outset attracts the attention of the maker is the lining. It may be well to state right here that the

factory as yellow cement, being made of a rubber and litharge compound dissolved in naphtha. The maker next takes a strip of piping, which is a narrow piece of cotton cloth covered with rubber, or rather a piece of cloth through which rubber has been forced by the friction rolls and afterwards cut into strips (sometimes by machine and sometimes by hand), and joins the two back ends of the lining together. This hood shaped piece is then placed upon the last, which is made of maple and in the shape of the shoe which the rubber is designed to fit. The maker now takes the inner sole, which by the way is always called the insole in the factory, and places it upon the bottom of the last, drawing the lining over and upon it all over the edge,

Rubber
Upper.

Lining



Outer

Sole

cloth of which the lining is made after it comes from the factory is stretched lengthwise, and then put over a hot cylinder and dried, in order that there may be no particle of moisture in it; for if it were damp and the rubber spread upon it, there might be a chance for blisters, and that would mean trouble, not only for the manufacturer but for the shoemaker himself. Exactly what the compound is that is spread upon the rubber most shoemakers may not know; although I have an idea that many of them think they do; and it is amusing to question them, and to discover what they believe it is made up of. They get the rubber right, and know that there's lamp black in it;

to make the lining tight upon the last. The inner sole by the way is run quite thick, of a compound of rubber, reclaimed rubber, scrap rubber, a little coal tar, and the usual compounds of lamp-black, whiting, etc. The next piece to be handled is the rag counter, usually made of the same stock as the inner sole, but not run upon cloth. The fact that these parts can be made of various scraps is a great help to the rubber manufacturer, as it not only utilizes scraps that otherwise would be waste, but it makes a very strong wearing stock, and, when wisely compounded, one that gives a deal of strength to a shoe. After this another piece of the narrow friction piping which was used in

in Sole

Outer
TillingFriction
Heel
Piece

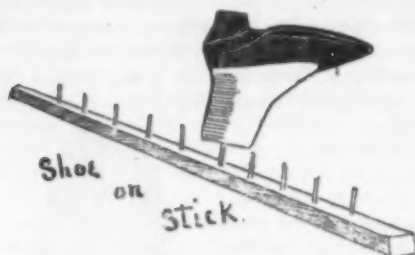
Toe Piping.

Rag
Heel
PieceRubber
Toe
Tip.Heel
Stay.

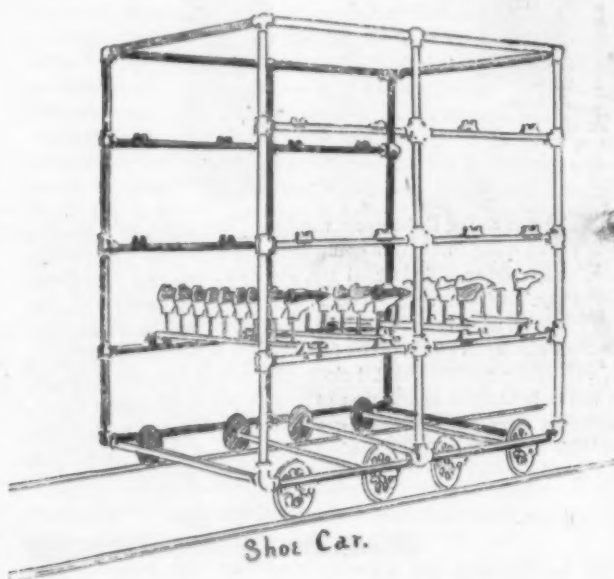
but as to the rest of the compound, it is usually an unknown quantity to them. Personally I feel a trifle better furnished than many of them, because my work on the calender a few years ago gave me quite an insight not only into spreading but into mixing as well. The rubber, then, is run in a thin sheet on the lining cloth, and is then taken to the cutting-room, where it is cut either by a die or by a knife around a tin pattern. From the cutting-room it comes to the maker, who spreads it upon his table with the rubber side down and carefully covers the edge with a thick cement, which is known in the rubber

joining the lining together is run around the bottom edge of the last, about two-thirds on the side of the shoe and one-third on the bottom of the shoe. Following this is the friction heel piece, made of the same stock as the piping. Then comes the friction heel stay, and then the rubber toe tip, which is designed to keep the toe of the shoe always in shape. What is known as the outer filling is next put in place. This piece is shaped the same as the inner sole, and is about a quarter of an inch smaller all the way round. It is made of rag stock, with friction piping on one side, and is put on friction side out. There are now but two more

parts to be added to the shoe; and very important parts they are. The first of these is the upper which is made of the best stock, and comes from the calender-room in sheets with the shape of the upper pressed upon them by engraved rolls. The cutter trims this into shape, puts it between the leaves of a cloth book, and sends it to the maker. These uppers are very sticky, and have to be handled with the utmost care. Indeed, it is



quite an art to take them from the book and place them upon the shoe without sticking the parts together, or getting air spaces that may result in very bad blisters. Very carefully, then, the upper is placed upon the front of the shoe, brought down the sides and drawn around the back. The ends of this upper piece are longer than is necessary, so one end is laid in position,



pressed down, and cut in a straight line down the back of the shoe. Then the other side is brought around, joined with the first, and pressed until the line of the first side shows; when it is cut so that it laps over that line about $\frac{1}{4}$ of an inch. This edge is then rolled down by a small hand roller, as indeed is the whole shoe wherever parts are joined or seams are made. Every seam is then run over by a small double stitcher, which is like two tracing wheels run together, the object of which is to make solid seams, and also to put the prettier finish upon the shoe. It will be seen at this stage of the manufacture of a shoe that the upper comes over the bottom too far; so it is trimmed off around the edge of the outer filling. The last piece to be put on is the outer sole, which is also run through engraved rolls and comes in strips to the cutter, who places a tin pattern upon the sheet of stock, and cuts around it with a bevel; which allows the sole to be put on smooth, and to be more easily rolled down

on the edge of the shoe. This process of rolling the sole is one that is exceedingly particular. The whole bottom has to be rolled hard first, after which the edge is rolled down and stitched with a single stitcher. As far as the maker is concerned, this shoe is now finished, the last being placed on a "stick," which, when it is full, is removed to the car. When a car is filled with these shoes, it is run to the varnish-room, where linseed oil varnish is run over it. It is then run into the great heater rooms, which are nothing more than hot air chambers lined with coils, steam pipes in the lower part, and with sheet tin throughout, where the shoe is baked from 7 to 8 hours at about 270 degrees of heat. From the heater they go into the packing-room, where the lining edge is cut off, the shoes examined and put into boxes ready for sale.

The Successful Retailer.

A MAN who has had much experience in the grocery business said to us, once on a time, that "he found that he could make more money by living in constant touch with the market than by paying attention to what his competitors were doing." He made it the study of his waking hours to learn all he could about everything which he had to sell. He found himself, as a rule, much better posted on prices than were sellers, and bought always at bottom figures. He strengthened his judgment by always exercising it, and if he made a mistake took the utmost pains to find where he made his error.

The retailer must remember that he goes up or down according to his own effort; and that he can only hope to succeed through his own tact and energy, and that no one else, no matter how able, can do for him what he can do for himself.—*National Grocer*.

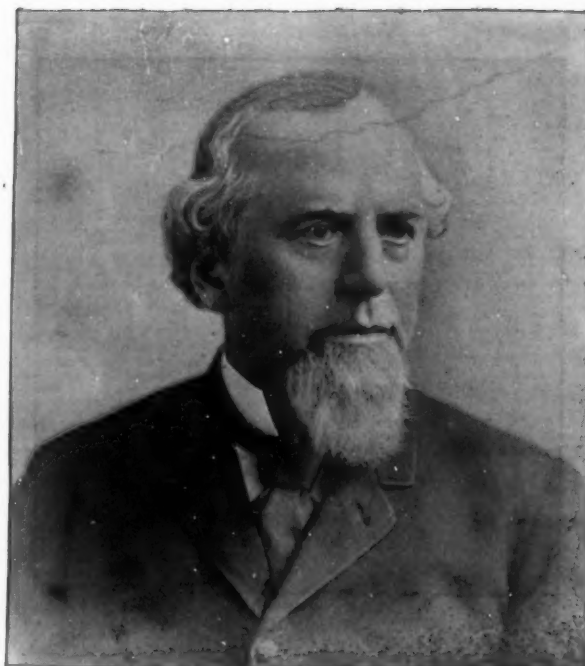
Guatemala's Decreasing Rubber Supply.

THE United States takes most of the rubber produced in Guatemala, but our receipts show a steady decrease since 1887. In 1888 they amounted to 300,668 pounds, in 1889 to 204,904 pounds, and in 1890 to 141,923 pounds. The processes which have been employed in gathering this valuable product have tended to destroy the trees and thus diminish the supply. Efforts which have been made by the government to prevent this has failed.—*Bradstreet's*.

Bank Bills of India Rubber.

THE advocates of cheap money who are making themselves so widely heard just now might be interested in a scheme which would make it possible to stretch their money, and thus make it "go further." This thought is suggested by a paragraph which comes to light in an examination of a file of *Hunt's Merchants' Magazine* for 1847, as follows:

"The editor of the New London (Conn.) *Star* has been shown a one-dollar bill of the New Haven County Bank—genuine—the paper of which was of India rubber, manufactured in Lisbon. It was slightly elastic, but little thicker than the ordinary paper, and perfectly impervious to water. Indeed, to so great perfection had it been brought, both in the filling up and the ink used for the signatures, that it seems to have defied the common, and even some uncommon methods of obliteration. It had been soaked and boiled in strong potash lye, with scarcely any perceptible effect."



ALBERT L. COOLIDGE.



JAO C. GONCALVES VIANNA,
Baron de Gondoriz.

I
at
co
F
ou
so
T
w

bo
Pe
of
hi

Ja
up
se
fo
yo
tic
ye

wa
rec
cle
bri
to
the
pa
he
fir
ing
att
for
de
An
I
tai
lar
of
sev
eve
gle
wo
Via
I
\$1.
as
in
less
A
stru
a la
inte
fina
clai

Baron de Gondoriz.

IN the present number of THE INDIA RUBBER WORLD we give to our readers a picture of the Baron de Gondoriz, at present the central figure in the rubber markets of three continents. The brief sketch which we published in the February number was correct in its principal features; but our information then was gathered from a variety of sources and was necessarily inaccurate in some details. The following brief sketch is gathered from a source which leaves little question as to its accuracy.

Joao C. Goncalves Vianna, the Baron de Gondoriz, was born forty-one years ago in a small village near Oporto, Portugal, in which city he resided till he reached the age of thirteen, receiving a very fair education for a youth of his years.

At that time his father, who was in business in Rio de Janeiro, in looking for a future for the young lad, decided upon placing him at Pará, whither he went and began to seek his fortune. The elder Vianna, in his careful plans for the boy's success, reasoned that if he went in his early youth he could avoid some of the dangers of acclimatization which become more and more potent with advancing years.

It would seem that the wealth of the Amazon country was so apparent that only the drawbacks of a life in it received consideration. Young Vianna at first obtained a clerkship in a mercantile house in that city. That he was bright, studious and industrious in everything pertaining to the business in which he was engaged, is vouched for by the fact that he found himself at the early age of 19 a partner in the house of Victor Roiz d'Oliveira & Co., where he remained for some years, the senior member of the firm in the meanwhile retiring. Young Vianna was nothing if he was not ambitious, and with his close, undivided attention to the rubber business, he was constantly seeking for one of the large fortunes that have been ascribed to dealings in this useful product of the country of the Amazon.

He was bold in his designs, and had no difficulty in obtaining capital for his enterprises which were always on a large scale. We soon hear of him as forming the house of J. C. G. Vianna & Co., under which name he carries on several important undertakings. During this time several events occurred in the rubber trade, and some bitter struggles were carried on, which have been put forth to the world in a vague way; thus results have been ascribed to Vianna which were not due to his operations.

In the struggle of 1882, when rubber was forced up to \$1.25 with disastrous results to a syndicate, it is now claimed as a matter of history, that Vianna was not in it, but was in fact short of rubber and made losses to a greater or lesser extent by being on that side of the market.

A year or two later he was, however, engaged in a severe struggle to maintain the price of rubber, of which he was a large holder. Cable communication with Pará becoming interrupted, reports were circulated reflecting upon the financial standing of his house. These reports were claimed to be unscrupulously untrue and as they could

not be promptly denied, the consequence was that he suffered in the matter of credits so necessary to him at this crisis, and he and the house of Vianna Frères at Havre were forced to bend to this insidious blow directed at them.

We next successively hear of him in the successful firms of Barros & Vianna, and the Uniao Commercial, and, later, in the Nova Uniao which was unfortunate and went into liquidation.

But with some defeat is only an incident. The Cia Mercantil of Pará was formed, and then the Banco Emissor incorporated,—the Empreza Industrial do Gran Pará, companies which now are handling three quarters of the visible supply of the Pará rubber of the world.

In these companies, Baron de Gondoriz has many able associates, among whom is Jose Ayres Watron, Director of Cia Mercantil do Pará (and father of the Baroness), who has been in the rubber business for many years, gaining in that time a high ability. A brother, Joaquin Guilherme Goncalves Vianna, ten years his junior, is with him, and is well known in New York, he having been here in former years in charge of the branch-house of one of the various companies. The brother has a high reputation for business ability both in Europe and this country. His other associates, not so well known here, are men of great reputation in Brazilian affairs.

In speaking of the Baron in the February number of THE INDIA RUBBER WORLD, we made the error of saying that he smoked the conventional cigarette of the country, when the fact really is that, he is not addicted to tobacco in any form. He converses freely, with a slight accent, but with grammatical accuracy, having an excellent flow of language and a good choice of English words. This faculty of expressing himself well and clearly with his perfect knowledge of the rubber business gathered in a lifetime in a section of the world vaguely known even to those, who have large interests at stake in it is probably the secret of his success.

Since his arrival here he has received an appointment from the Finance Minister of Brazil as a commissioner to study and report about the trade of rubber between the United States and Pará. It is supposed that other high honors have been conferred upon him from Portugal, but the cable announcement is necessarily so brief that mention of them is postponed until full detail can be received by mail.

The Baron sailed for Liverpool on the *Aurania* on the 20th ultimo on business, with the hope that he could make a short trip to his native place.

VISITOR (at the museum)—I don't see the India rubber man to-day.

ATTENDANT—No; this warm weather makes him so sticky that we've been obliged to send him out to be vulcanized.

COL. COLT, the president of the National Rubber Co., has taken a summer trip to Europe; but will be back in Providence in the early fall.

A Guide for Salesmen.

THE set of business rules which follows is from a revised manual, in pamphlet form, which the Roberts Hardware Company of Denver, Col., has caused to be printed. Originally prepared for their salesmen, some of these rules being of special application to the hardware trade are omitted. Such as are of general application in all kinds of mercantile business are given. As they are the outcome of critical observation in the long and successful business experience of men of acknowledged ability, they cannot fail to prove a profitable guide to young salesmen in any line of trade:

Keep your eyes on the front door. Customers should be waited on promptly and pleasantly.

Wait on children as politely as you do on grown people. They are our *future* customers.

Salesmen, when disengaged, will take position near the front door, instead of the back. Customers do not come in at the rear.

Don't stand outside the front door when at leisure. It is an excellent notice to competitors and customers that trade is dull.

Salesmen are paid for waiting on customers, and are not expected to turn them over to the boys, or new men who are learning the business, while they busy themselves arranging or putting away goods.

Don't take a customer away from another salesman until he is through with him.

Don't turn a customer over to another clerk, if possible to avoid it, except for the dinner hour.

Go for business in every direction; in the store or out of it; wherever you see a chance to make a sale, work for it with all your might.

Salesmen will sell at marked prices. Do not go to office for a *cut* price. It always makes trouble.

Clerks of other dealers are to be charged regular retail prices. If the houses they work for buy the goods for them it is a different matter.

Don't send a customer up-stairs or down by himself.

Salesmen will avoid the responsibility of trusting customers whose credit is unknown to them by referring all such cases to the manager. Extending credit without authority makes the salesman responsible for the amount.

In opening a new account get the business and post-office address of the customer correctly.

Never show a price-list to a customer; it confuses him, and he thinks he is paying more than he should when he sees the columns of prices.

Salesmen are expected to sell the goods we have, not the goods we have not.

Salesmen are responsible for their mistakes and any expense attending their correction.

Always charge goods first in the day books. Make out the bill from the charge *in* the book. Make this an *invariable* rule.

If you have a charge to make, enter it *before* waiting on another customer; your memory is apt to be defective, and the sale forgotten before it is entered.

Make your charges accurate in detail or description by number, size, etc. By so doing it facilitates correction in case of dispute with the customer.

Close your entry books after making entry. Valuable information may be stolen by competitors.

Clerks receiving change from the desk will count the same

and see if correct before handing it to the customer. Always hand the cash mem. with the money to the cashier.

If you know of an improvement of any kind, suggest it at once to the manager; it will be impartially considered.

Keep retail stock full and complete on the shelves, so as to avoid detaining customer. Notify each man in charge of a division, when you find anything short in it.

Always put the stock in order when through waiting on customers.

Each clerk is expected to see that his department is kept clean and in perfect order.

Use the early part of the day and the last hour before closing, in sorting and straightening up.

Prices are *not* to be cut. Report *every* cut price by other firms to the manager *after* the customer is gone, unless he is a well-known and regular customer, in which case report at once.

Do not smoke during business hours, in or about the store.

Employés are requested to wear their coats in the store. It is not pleasant for a lady to have a gentleman waiting on her in his shirt sleeves, or with his hat on.

Employés are expected to be on hand promptly at the hour of opening.

Do not leave the store by the rear door.

Employés will remain until the hour of closing, unless excused by the manager.

Conversation with the bookkeeper, or the cashier, except on business, interferes materially with the work. Do not forget this.

Clerks, when on jury duty, have the privilege of turning in their fees, or having the time absent deducted from their wages. Drawing salary for their services, the company is entitled to their time or its equivalent.

Any goods sent out to be repaired must be entered in the book kept for that purpose, and when returned reported at the desk and the charge cancelled.

Watch the ends of stock, make as few as possible, and always work them off first, to keep the stock clean.

Keep *mann* about our business. *Always* have a good word to say for it, and never say it is dull. Keep your eyes and ears open about your competitors.

Towards customers be more than reasonably obliging; be invariably polite and attentive, whether they be courteous or exacting, without any regard to their looks or condition; unless, indeed, you be more obliging and serviceable to the humble and ignorant.

The more self-forgetting you are, and the more acceptable you are to whomsoever your customer may be, the better you are as a salesman. It is your highest duty to be acceptable to all.

Cultivate the habit of doing everything rapidly; do thoroughly what you undertake, and do not undertake more than you can do well.

Serve buyers in their turn. If you can serve two at once very well, but do not let the first one wait for the second.

In your first minute with a customer you give him an impression, not of yourself, but of the house, which is likely to determine, not whether he buys of *you*, but whether he becomes a buyer of the house or a talker against.

If you are indifferent, he will detect it before you sell him, and his impression is made before you have uttered a word. At the outset you have to guess what grade of goods he wants, high-priced or low-priced. If you do not guess correctly, be quick to discover your error, and right yourself instantly; it is impertinent to insist upon showing goods not wanted. It is delicately polite to get what is wanted adroitly on the slightest hint.

Do not try to change a buyer's choice, except to this extent: Always use your knowledge of goods to his advantage, if he wavers or indicates a desire for your advice. The worst blunder that you can make is to indicate in a supercilious manner that we keep better goods than he asks for.

Show goods freely to all customers; be as serviceable as you can to all, whether buyers or not.

Sell nothing on an understanding; make no promises that you have any doubt as to the fulfillment of, and, having made a promise, do more than your share toward its fulfillment, and see that the next after you does his share, if you can.

Never run down your competitors to customers. By so doing you advertise them. It won't pay you to get trade in that way. Competitors can talk back.

Letters to the Editor.

Sore Eyes in Rubber Mills.

EDITOR INDIA RUBBER WORLD: In the rubber factory in which I work numbers of the employés, particularly in warm weather, are troubled by sore eyes. Our manager has tried in vain to discover the cause of this, even going so far as to consult with expert physicians; but although they have all had theories as to the trouble, no good has resulted from their visits. Can you give us any light on this subject? WORKMAN.

[We should hardly feel like venturing an expert opinion upon a topic of this kind without knowing exactly the kind of work that these employés are upon. We have known of cases where certain kinds of naphtha have caused trouble with the eyes, but that was years ago when rubber manufacturers were not so careful in getting solvents that were particularly adapted to the rubber work. It also happens at times that sulphur fumes trouble the eyesight. In either of these cases, first class ventilation should be at once attained in the rubber factory, and if the solvent is the matter, another grade should be substituted. As very little acid curing is done in this country, we doubt if that can be the cause of the trouble.—ED.]

Waterproof Paper.

EDITOR INDIA RUBBER WORLD: Can you inform me whether rubber in solution is ever spread upon paper for waterproofing purposes, or can it be spread upon paper by calender? Very truly, M.

[Rubber certainly can be spread, either by a gossamer spreading machine or by a calender upon paper, and would make a first-class waterproofing article. It, however, would be so costly as to be ruled out when it comes in opposition with other waterproofing papers. Some of the table oil cloth manufacturers, notably one in Taunton, Mass., have a compound which they spread upon paper that is extremely successful, and that really answers every purpose that rubber can. There is also a firm in Walpole, Mass., J. A. Bird & Co., who manufacture a very high grade of waterproofing paper from a substance that is extremely like India rubber.—ED.]

Treating Fibre with Rubber Solution.

EDITOR INDIA RUBBER WORLD: I have been for a number of years interested in the practical working of a factory that makes suspender webs and other fabrics, in which rubber and fibre are woven together. I have been wondering of late if some process like the following might not be of advantage: Would it not be possible, say for shoe goods, for the fibres or threads in the first place to be soaked in a solution of India rubber, then partially vulcanized, and then woven to-

gether, to form a waterproof elastic fabric? Has this to your knowledge ever been done, or do you think it practical?

Very truly,

INQUIRER.

[Since you ask us our opinion on this, we must say that we think the plan hardly practicable; a far better one in our judgment would be that which was patented by Henry G. Tyer, some years ago, in which the goring was made of double texture cloth, which by a special machinery invented by him was stretched so on the bias so that it was nearly twice its normal length, and one-half its width. It was then coated with rubber, and the rubber sides put together and run through a calender. This formed one of the best gorings that we have ever seen, and could hardly be improved upon by the method you suggest.—ED.]

An Appreciative Letter.

EDITOR INDIA RUBBER WORLD: We are very much pleased with THE RUBBER WORLD, and find ourselves anxiously awaiting its monthly appearance. It not only contains reading matter which is interesting, but when read by practical rubber workers it proves to be a great benefit to them. Besides this we find it an excellent advertising medium, having had calls from our goods from the West and South, from Canada, and even from Paris; in all of which THE RUBBER WORLD has been quoted as the informant. Long may it continue a visitor.

Yours truly,

F. L. KALLOCH,

Mgr. Kalloch Rubber Mfg. Co.,

Boston, Mass.

Recent Rubber Patents.

No. 453,326.—Insulating cover for trolley or conducting wires; Albert L. Ide, Springfield, Ill. A trolley or conducting wire partially enveloped in a nonconducting insulating covering suitably applied thereto, the covering being thickest in cross section at its central portion.

No. 453,345.—Fabric; William Mck. Morris, Yardville, N. J. As a new article of manufacture, a canvas or duck fabric, sized and having its outer surface coated with rubber; or a series of layers of duck or canvas, sized and rubber coated, the whole being held together by rubber being forced into the interstices of the duck or canvas.

No. 453,359.—Hose clamp; John D. McRae, Baldwinville, N. Y. A wire clamping band, composed of a single piece of wire bent to form a rectangle and having the ends of the wire secured together in one of the end bars of the rectangle and projecting beyond it, in combination with concave clamping heads, connected to the end bars of the rectangle, and grooved to receive the ends of the wire.

No. 453,420.—Bottle stopper; Joseph Burghard and Chas. J. Heimberger, Providence, R. I. In a mechanical bottle stopper, the combination with a rubber stopple, having a shoulder adapted to surround a metal cap provided with a slot and transverse end, the ends of which are securely embedded in the metal of the cap; of a lever having a tongue, and eccentric arms, pivotally secured to the pin, and a yoke wire pivotally secured in a bearing at the upper end of the lever, and having the bent ends journaled in bearings, formed by the coils of wire, and secured to the bottle.

No. 453,520.—Elastic wheel tire; Alexander Straus, N. Y. Assignor to the New York Belting & Packing Co. A cushion tire for bicycles and other vehicles, having the opposite inner sides or walls reinforced or thickened.

No. 453,550.—Tire for vehicle wheels; John B. Dunlop, Belfast,

- Assignor to the Pneumatic Tyre and Booth's Cycle Agency, Limited, Dublin, Ireland. The method or process of manufacturing and applying inflated tires, which consists in separately forming an air-proof tube and a non expansible fire-proof covering, drawing the former into the latter, joining the defective ends of the tube, applying and securing them to the rim of a wheel, and then inflating the air proof tube.
- No. 453,621.—Nipple for nursing bottles; Timothy C. Chalk, Providence, R. I. In rubber nipples for nursing bottles, a metal spring secured at the base of the nipple and entirely covered by rubber, thereby preventing rusting.
- No. 453,689.—Composition fabric; Parker R. Bradley, Boston, Mass., assignor to the Pantasote Leather Co., Passaic, N. J. As a new article of manufacture the embossed composition fabric herein described, the same consisting of a bottom sheet of fabric, a layer of gum composition placed upon the fabric, the layer being sufficiently heavy to take up the embossed design of the fabric that is placed upon the composition layer, before the same is embossed, and the uppermost coating of gum composition, all arranged to have the embossing mainly on one side of the fabric.
- No. 454,055.—Atomizer, Rhodes Lockwood, Boston, Mass. In an atomizer the combination of a bottle, a liquid receiving chamber above it, and a connecting conducting tube, an air forcing device for forcing the liquid from the bottle into the liquid receiving chamber; liquid and atomizing tubes, and atomizing nozzles.
- No. 454,060.—Insulated electric conductor; Edwin D. McCracken, Alpine, N. J. Assignor to the Norwich Insulated Wire Co., New York. The combination of an electric conductor and one or more insulating ribbons composed of longitudinally folded paper, and having therefore multiple layers and a lead sheet enveloping such insulation.
- No. 454,079.—Process of vulcanizing rubber dentures; George B. Snow, Buffalo, N. Y. A process of vulcanizing rubber dentures which consists in packing the mold, enclosing it at a temperature of about 212 F., releasing the pressure prior to subjecting the mold to the vulcanizing temperature, and allowing it to part as its contents expand by heat; vulcanizing the plate and subsequently reclosing the mold under pressure and heat, causing the shrunken mass of rubber to fill the vacancies incident to the shrinking.
- No. 454,085.—Elastic washer; Chas. E. Swan, Rome, N. Y. A combination of a carriage axle, a wheel box and elastic washer, having outer wearing faces; each having inwardly extending flanges around the periphery, and inwardly extending flanges around the opening through the washer, and an elastic spring or cushion between the faces within the flanges, and secured to each face.
- No. 454,092.—Rubber Tire; Joseph A. Turner, Passaic, N. J. A wheel comprising a metal felly having a series of inwardly turned flanges with V shaped recesses between, a number of perforations and horizontal slits the rubber tire seated in the felly and retained therein by means of said flanges.
- No. 454,115.—Wheel Tire; Thomas B. Jeffrey, Chicago, Ill. In combination with a rim having recesses open toward the axis of the wheel, a tire-sheath, having its edges reversed and engaged in such recesses; and the elastic expansible core between the rim and the sheath.
- No. 454,143.—Overshoe; Wm. H. Sprague, Brooklyn, N. Y. In an overshoe, the heel portion and outer side of which are of substantially the same height, the inner side having an upwardly extended portion and a plate attached to the upper edge of the inner side of the heel portion, adapted to engage in the groove formed by the heel seat of a shoe or boot.
- No. 454,193.—Buoyant bathing suit; Richard Wightman, Jr., N. Y. A buoyant bathing suit jacket comprising front and back air compartments, terminating in front flaps, which divide the front compartments into two parts; said flaps being provided by with fastening devices, and adapted to be overlapped when secured, whereby the jacket may be removed and applied to the coat.
- No. 454,210.—Rubber pad for interfering straps; Michael Haughey, St. Louis, Mo. A pad comprising a strap and buckle, with a rubber loop pad in the rear of the buckle, and adjustable on the strap. The adjustable pad having loop and plate secured on the said loop and carrying the interfering pendant.
- No. 454,375.—Painters' overshoe; Adolph S. Olson, Eldorado, Iowa. An overshoe having its lower side portion and toe portion of leather, and in one continuous piece. The instep and body portions of canvas; the canvas being cut away at the heel and provided with a strap and fastened thereat; an elastic strap to secure the lower side portions and passing over the instep and an elastic sole, having a metallic plate or strip therein.
- No. 454,415.—Apparatus for making dentures; Robert E. Zellers, Philadelphia, Pa. An apparatus for making dentures, the combination with suitable burners connected with a source of heat supply of a two part flask within one of the burners, having air passages formed therein, air tubes communicating with these passages for exhausting the air therefrom, a crucible within the other burner and a passage therefrom to the interior of the mould.
- No. 454,547.—Insulating material; Alfred W. Sperry, Hartford, Conn. An electric insulating material composed of mineral wool and silicate of soda, or potash and zinc white.
- No. 454,548.—Compound for the manufacture of insulators, packings, etc.; Alfred W. Sperry, Hartford, Conn. A compound consisting of mineral wool, rubber, linseed oil, and oxide of zinc, in about the proportions of 8 pounds of mineral wool, 1½ lb. of rubber and linseed oil combined, and 3 lbs. of oxide of zinc.

THE A. W. Harris Oil Co. of Providence, R. I., advertise to send to any of their customers a barrel of oil by mail. It causes some surprise and usually a good natured laugh when this barrel is received; for it is simply a pasteboard barrel, red as all oil barrels are with red hooks, the name of the company sending being printed on the head.

MR. J. FRANCIS, a planter from Jamaica, West Indies, recently called upon the editor of INDIA RUBBER WORLD, and gave him some very interesting information as to the efforts the Government are making to discover whether India rubber can profitably be grown in their island. The first step in this line was recently taken where the government sent to every planter a request for samples of the various rubber bearing trees in their district, and for whatever information they could furnish upon them.

Working up in a Rubber Factory.

BY A FORMER SUPERINTENDENT.

I WAS very successful in demonstrating to the owner of the English mill that I knew what I was talking about when I stated that I could make a cheaper and more effective compound than the one he showed me. According to promise he therefore gave me a position with fair pay and soon grew into the habit of consulting me on all new lines of manufacture that came into the mill. As might be supposed this was not particularly pleasing to his superintendent. I beg his pardon—his manager—as he insisted upon being called. This man who naturally was a decent sort of fellow grew more and more pronounced in his dislike toward me, but to his credit, let me say, his hatred always showed itself openly. At the same time this constant prejudice had its effect upon the men, and had I not been a wiry young fellow, well able to care for myself, I should have been the butt of many a rough joke. Gray haired and bent as I am to-day it hardly seems possible that but a few years ago I could lift one of the half barrels of white lead as high as my chest, and was the only man there who could do it.

One day while working in the grinding room the proprietor came through with a stranger, a very remarkable event in those days. I knew in a moment that the man was a fellow countryman and I straightened up and took a good look at him.

"That young man looks like a Vermonter," said the stranger.

"I don't know anything of him. Is that some criminal term?" asked the Englishman, looking at me suspiciously.

"Same as galley slave," I interjected quickly.

"Bless my heart, how 'orrible—"

"Hold on," laughed the stranger, "that is only a joke. I mean he comes from the State of Vermont—but is he an American?"

"Yes, he's a Yankee, and I'm hanged if I can tell when he's tellin' the truth an' when he isn't," was the warm reply, "but he's a good rubber man."

From this we three got chatting, for the stranger stood by me and asked a lot of questions. Finally as he left he asked me to call on him at the hotel in town and I promised.

That evening I fulfilled my promise and then learned that the gentleman was going to start a factory in England, and that unknown to my employer he was a well-posted rubber man. To make a long story short, when I had explained how disagreeable was my present position he offered and I accepted the position of foreman in his new mill.

After giving due notice, therefore, I left the English mill and went down to examine the new plant that I was to superintend. The next few weeks I was more than busy in getting machinery and setting it, for small though the mill was, it was very difficult to get what we wanted.

Finally, engine, boilers, grinders, presses and calender were set, and with a small force of men I started. At first

we were not crowded with work, and looking back I can see that had it not been for one fortunate circumstance we should have failed. That was the securing of a good contract for car springs. As I had a hand in getting the order, it belongs in this tale.

Our owner had not been able to stir the buyer of this railroad, although he had tried hard, and knew that we could make a spring that would be far better than what he was then using. So he came to me one day and said:

"Tom, come to town. I am going to dress you like a gentleman, and set you on to this buyer."

"All right," says I.

So to town I went and got a swell suit of clothes and a pot hat, and going to the railroad office was introduced as the manager of the new mill. The man was civil until I began to talk of what we could do in springs, and then he interrupted with:

"Don't you know, me good man, that I have been to the bottom of this rubber business? I know all about rubber springs."

"No, I didn't know it, and don't believe it," I replied.

"I hope your man is impudent enough," said the buyer, turning to my employer.

"He is the best rubber man in England to-day," was the somewhat reckless reply.

"What do you want done?" was the brusque query.

"I want you to select one of your best springs, and I will make one of the same size. Then I will rig up a simple testing machine, and will guarantee that while your spring gives way mine will stand," I said quickly.

After a moment's thought he assented to this in a gruff way, and even went so far as to loan me a mould of the size that he wanted.

Two days later, bearing the spring that was to make or break us, I appeared at the office and was told to go ahead with my experiments. In a storehouse near there I found the space that I wanted and started in. My first move was to bore two holes through the heavy beam that supported the floor. Then through the hole in the beam and through the spring I put a long heavy bolt. On the upper end was a plate of iron that completely covered the top of the rubber. Under the floor was a large open space and into this projected the lower end of the bolt. On the end of this bolt I hung a sling into which could be put pigs of iron. The Englishman's spring I served the same way.

"That has been tried before, young man," said the buyer with a superior smile. "It will stand two tons."

This was just the information I had been looking for, so I said nothing but ordered the men to load the slings. In each of them they put two tons. On measuring the rubber springs they had been pressed down just alike.

"There's no difference. What did I tell you?" said the railroad man impatiently.

"I intend to leave this iron hanging a week," I said, "but to show you the difference between a good spring and a poor one, I want more iron."

"Have all you want," he replied. So I loaded my sling until there were ten tons hanging on the rubber and two on his. Then we went away.

One week from that day we were on hand and with the buyer went to the storehouse. Both springs were pretty flat. With some anxiety I ordered the iron removed. Bar after bar was taken off, and as I looked carefully at mine it began to resume its original shape, and when the last one came off and the bolt was withdrawn it slipped from the workman's hands and bounded along the floor as lively as a tennis ball. As for the other spring it was so completely out of shape that it was ridiculous to look at.

After that we had no trouble in getting the order, and in holding it too against all bidders.

"How did you do it, Tom?" asked our proprietor when we took the train for home.

"A lead compound and a long slow cure," I replied.

India Rubber Heels for Walking-Shoes.

THE possibility of a marked new feature in walking-shoes, involving the use of India rubber, is suggested in a memoir by M. A. Colin, in a recent number of *Archives de Medicine et de Pharmacie Militaires*, of Paris. Under the usual conditions in which we walk, each step is marked by the heel striking the surface of the pavement or road. This blow, which represents a portion of the muscular strength exerted by the pedestrian, is useless for progress; on the contrary, it has something of the effect of friction in machinery. Besides, the shock of the heel reacts on the entire system, to which it transmits a perceptible vibration by means of the bony structures. In a long walk the effect of this becomes very apparent, leading one instinctively to seek the roadside, in case it should be lined with grass or a soft surface. It is estimated that a soldier, in a day's marching, experiences some 40,000 of these shocks. The blow of the heel, and the headache produced by the resulting jar, do much to produce the sensation of fatigue felt after a long walk. It has seemed worth while to M. Colin, who is an army surgeon, to try to find some way of using the lost energy in the act of walking, or at any rate to relieve the reaction which it causes.

For this purpose use has been made of an India rubber heel, with the result of avoiding excessive jarring when on a march, somewhat on the principle by which good springs render a carriage more comfortable. Besides, according to M. Colin, the energy which is ordinarily lost by the blow of the heel is stored up by the weight of the body by means of this elastic compression, and finds itself utilized for locomotion at the moment when the heel leaves the ground. A comparison might be made at this point with the effect of the expansion of the pneumatic bicycle tire on the side of the wheel which rises from the ground during its revolution. The result of numerous experiments, it is stated, shows that with India rubber heels it is possible to walk a little quicker, and especially that it is less fatiguing. It is suggested, also, that India rubber heels might be used in therapeutics. They would be serviceable to patients suffering from complaints of the nerve-centres or viscera, or to those convalescing from serious illness of any kind, when the system is apt to be very sensitive to the jarring produced by locomotion.

The form suggested by the French writer is a heel made entirely of rubber. Some of those experimented with by him, after having been used daily for a year and sometimes on very long marches, were found to have kept their shape, thickness and elasticity, and to be only a little worn on the surface. Should the item of cost, however, prove a serious one, a mixed rubber heel might be adopted. This would be formed by hollowing out sufficiently the portion of the sole to which the heel is directly fastened, so that a piece of elastic tissue can be set into it. With the French infantry boots it would be sufficient to fill this space with a slice of pure caoutchouc five centimetres (1.96 in.) wide, stamped out of a sheet two centimetres (.78 in.) thick. Pertinent to the question of durability of India rubber it may be mentioned that in a New York rubber store, recently visited by the writer of this article, some store-trucks were seen, the wheels of which wore rubber tires said to have been in regular use for fourteen years. They seemed fitted for many more years of similar service.

Toes That the Wind Blew Through.

MISS HOSMER, a school teacher of Fitchburg, Mass., has sent a boy home because he came to school barefooted and in knickerbockers. A reverend gentleman at the meeting of the school committee decided that it was most indecent for a boy to come to school in knickerbockers with bare legs, or, as one must assume the reverend censor to have said, with bare limbs. But, Reverend Mr. Hall, were there many schoolboys who went to school a hundred years ago without bare legs and feet, and are there many lads, born in Ireland, who, to-day, are dignified as United States Senators or Governors of States, who did not go barelegged to school?

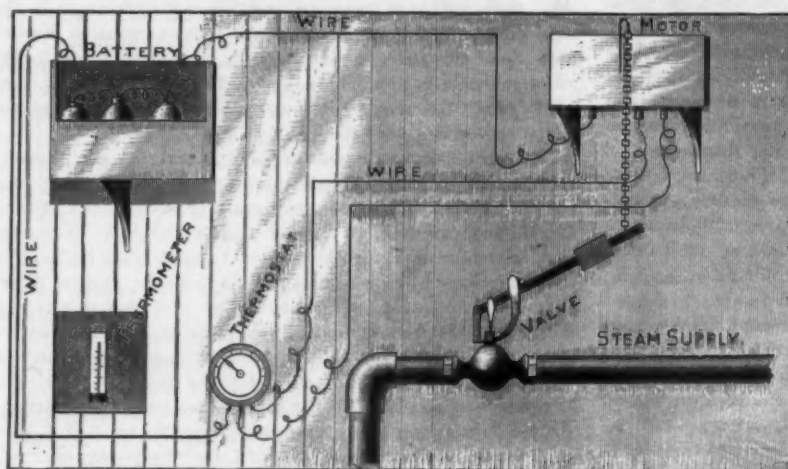
Surely it is the toes that once the wind blew through which now fill the most envied shoes, and it is the shoeless urchins who now need most a school education. It is for our Daniel Healys that the public schools were made, in spite of all the blushes of the Miss Hosmers and the Rev. F. O. Halls.—*N. Y. Sun.*

In a letter from A. H. Lyman, the treasurer and manager of the Western Rubber & Belting Co., Chicago, he says: "We are now comfortably settled in our new store at 205 Lake Street, and are ready for all the business that is within reach. We have a fine store and basement, 160 by 20 feet in dimension, and now that we are thoroughly settled think that we have a model rubber store. Am glad to say that our business has steadily increased during the last year, and we intend to keep the ball rolling." In a recent trip West the editor of THE INDIA RUBBER WORLD called upon Mr. Lyman and went through his store, and he can gladly vouch for all that he has said and even more; for it is really excellently situated, and with the large stock that they have there, together with the experience and push of the Chicago force, it should be a decided success.

THE Crosby Steam Gauge & Valve Co. had one of the best spaces in the exhibition tent at the recent conventions at Cape May, N. J., and the display of their goods was certainly as notable as any there.

A Mechanical Heater Man.

TALKING confidentially with almost any rubber manufacturer who uses dry heat either for clothing or for boots and shoes, the acknowledgment comes that a trustworthy and experienced heater man is a necessity. Even with the best help of this kind mistakes often occur, and goods are burned, occasioning losses that they can ill afford. Various devices for relieving the watcher from his constant care, or better still for supplementing his efforts and guarding against errors have been devised, but it was not until electricity was called into use that success was attained. The illustration shows a simple and effective electric device that is now running on several dry heaters that does the work with an accuracy that is marvellous. It consists of a small battery, a tiny motor, and a thermostat. By its use a heat may be gradually raised to the desired point, and then held there as long as is necessary. A variation of one degree serves to open or shut the inlet valve, and keep the temperature just right. This apparatus is the result of a careful



study of the conditions under which goods are cured in various rubber mills, and an appreciation of them all. Manufactured by the N. E. Fire & Heat Regulator Co., 70 Pearl Street, Boston, Mass.

A Substitute for Ivory in Billiard Balls.

A GREAT many experiments have been tried by the wisest of manufacturers to get a good substitute for ivory, particularly in billiard balls. This has been accomplished by the celluloid manufacturers, and is also accomplished, according to report, by the following process: A base of cellulose matter is treated with nitric and sulphuric acids; instead, however, of neutralizing this with alkalis of various kinds, the acidulated cellulose matter is treated with a solution of sulphurous acid in a tight vessel at a temperature of 100 F. This is allowed to remain until the excess of nitric acid is decomposed, which takes about thirty minutes. The compound is then pressed to extract the excess of acids, and about thirty-five gallons of water are added to every 50 lbs. weight of the mass. This generates a certain amount of heat, which helps to render it soluble, after which the acids are removed by washing. A bleaching process often follows this, and a second washing in hot water, and then careful drying. A camphorated solution is then prepared of crude camphor dissolved in methylated spirit, which is passed through a filter containing a mixture of chloride of calcium.

To every 100 lbs. weight of the base there is added 115 lbs. of the solvent. This makes a thoroughly plastic mass, which may be handled a good deal as rubber dough is, and can be pressed into rods or moulded in any shape. Where opaque results are required almost any pigments can be mixed with the materials before it is moulded. Where the result is to be transparent, the color is mixed with the solvent. This compound is very inflammable, but may be made less dangerous by adding 25 per cent. of borate of magnesium.

The Big Biscuit.

THE INDIA RUBBER WORLD in its issue of March mentioned a large biscuit of Pará caoutchouc that was and is yet on exhibition in the ware room windows of the Gutta Percha and Rubber Manufacturing Co., at the corner of Warren and Church streets, in New York. It was then stated that this biscuit weighed over 1000 pounds, and cost \$1010.00. Much curiosity was displayed at the time to learn its history, and since that time an effort has been made to gather some facts in regard to it. The following history of the big ball has been obtained through the house of Norton & Co., of Pará.

The biscuit in question was made 1800 miles above Pará on the Rio Acre, which empties into the Purus. It was gathered above the Cachoeiras or falls and the point must have been not far from the Peruvian line.

The ball was made to order, of course, for the special purpose of exhibition. One of the best gatherers was selected, and for him two assistants were procured.

The process was the ordinary method except that it was on a large scale. A rude cradle was formed, the mass as it was formed being too heavy for one man to handle in the ordinary manner.

The assistants took great pains with their work, the greatest care being had in all the steps not to allow any "medium" to get into the mass. Good judgment had to be exerted all the time with regard to the weather, an important matter in that country reeking with moisture. So slow was this process that it took the united efforts of these three men over six months to gather and cure the mass.

As the Purus produces uniformly the best rubber in the world the mass has the qualifications of being the largest and finest biscuit that ever came from that region.

Were the location of the rubber trees which yielded this ball in any other spot than where the cemetery takes a large toll on human life every year, we fancy that the interior of Brazil would soon attract an educated and active emigration.

THE value of carbolic hose can be ascertained by taking a piece of duck and saturating one half of it with carbolic acid and then burying it in mud. That part which is not treated will mildew and rot, while the carbolic portion will prove mildew proof. Of course the advantages of this are, that there is no drying of fire hose necessary in expensive towers in engine houses and government buildings. The hose must be treated properly, and not as one manufacturer did when he desired to have a lot pass government inspection. He wet a sponge with acid and threaded it through the hose. The smell was there and the hose came very nearly passing the bureau.

The Status of the Trade Journal.

THE tendency of modern times is towards specialization. The realms of knowledge which year by year are opening up and widening out as the march of progress goes on, are too vast and extensive to be mastered by any other method than that of classification. We see it in the arts, the sciences, the professions, and in the less lofty, but not less noble fields of industry and commerce. What a century ago was a trade or a profession now includes several of these; what was then a specialty is now a generality, including specialties then unknown as such. A century ago the shoemaker bought his leather from the tanner, his tools from the smith, his wood wherever he could get it, made shoes and sold them. That was the sum total of shoe manufacture. To-day, how different.

The manufacturer goes to one source for his engines, to another for his belting, to another for his machinery, to others and others again for his leather, sole and upper, his lasts, his goring, and the thousand and one other requisites to the manufacture of the modern shoe. The progress and development of the industry has led to the establishment of countless others, unknown to the olden time. As it is in this line of manufacture, so it is in other lines, and in everything. It holds good in journalism. With the development of art, of science and industry have grown the functions of the chronicle and forum of humanity. With the specialization of each department of industry has arisen an attendant corps of advocates. Their special function is the consideration of topics in point, technical for the most part, which the daily papers do not pretend to have the ability to discuss, and the chronicle of trade news, which the latter assiduously neglect in their pursuit of the sensational and depraved.

It has long been a truth accepted in philosophy and proved by history, that the contact of mind with mind is bound to result in benefit to the race, so that commerce, aside from the pecuniary benefits arising from it, is one of the greatest factors in civilization. This is true between man and man, and between nation and nation. The recluse who retires from contact with other men and their thoughts, the nation that keeps unto itself, are each lessening in great measure their chance for progression. Inter-communication is the first law of civilization.

The means of communication of thought between man and man, or between nation and nation, are varied, but among them the newspaper, concededly holds the highest rank.

The daily newspaper of to-day, however, is far from being the journal of civilization, if by such we mean something other than a record of sensation, brutality and crime. No one would deny that the daily newspaper contains much that it is essential to know, but this is in small proportion, and often crowded almost out of notice by the accompanying volume of trash.

If to-day the daily newspaper is a more potent factor in moulding public opinion and public thought than the trade journal, it is because of the wider circulation of the former, which is read by all classes, while the trade journal reaches few but those connected with the industry it represents. But the day will most surely come when, in journalism, the feature of specialization will have been carried so far that each trade, art, science, or profession and division thereof will have a corps of representative technical journals devoted to its interests. When that day comes the technical press will wield a power in the land beside which that of the chronicle of sin and sensation shall sink into obscurity.

We are probably correct in surmising that the majority of

business men believe in association, whereby they can exchange with each other ideas and plans of mutual value. The trade press acts as a medium of communication more than association, by reason of its convenience, and lack of expense. The experience of one thus becomes the experience of the other, which otherwise he might not have gained so cheaply.

As day by day we draw each closer to our neighbors in mind and spirit, the importance of the medium should not be forgotten.

It is not given to us to tear down the barrier that separates us from futurity, but could we do so, it is certain that among the sounds attendant upon the march of mundane progress, the stirring voice of the trade press would be heard above all others, urging on the world to the higher civilization to come.
—*Shoe and Leather Gazette.*

It Has a Rubber Tire.

A ONE-WHEEL cycle, eight feet high, that a greenhorn can learn to ride in a minute, and then write his name in the dust with it in fifteen feet of space, not to mention a speed capacity of two miles in sixty seconds on a good track, is the astonishing invention which Victor Beranger, of Worcester, editor of *Le Courrier de Worcester*, claims to have produced after two years of hard work.

Last week, he says, his brother in Montreal rode the phenomenon seventy-three miles in one hour on an ordinary highway, and that was at the rate of much more than a mile a minute. Mr. Beranger himself, on a wager of \$100, will leave Worcester soon in the presence of a number of witnesses, so he says, at the same time the new "Chicago flyer" on the Boston & Albany Railroad leaves for Boston, and he promises to arrive at the Hub at least fifteen minutes before the express train reaches there, notwithstanding that he will have to travel forty-six miles by highway as against forty-four by rail. If he does it, in the face of the fact that the highway between Worcester and Boston is in no way prepared for such a lightning trip, "Monsieur" will have furnished the world the biggest sensation possible short of an actual flying machine. Mr. Beranger may be an enthusiast, but he has made applications for patents in five countries, and his patent in this country is already assured. The new cycle will certainly make the fur fly in "bike" circles if it goes, for it will be sold for \$70, and its weight will be about fifteen pounds less than the ordinary Warwick "safety."

The inventor claims that to propel his machine requires from seven to ten times less power than is required on the ordinary bicycle. Indeed, the difficulty he seems to fear most is a vast excess of power, which will make the machine unmanageable to the ordinary person through its terrific speed. If the one-wheel cycle, according to the inventor's designs, is practicable, its availability for people who nowadays ride bicycles merely for pleasure may be questioned, unless it can be easily controlled and kept at a low rate of speed. According to Mr. Beranger thirty pushes a minute on the pedals equals about forty miles an hour. If machines of this sort are to go cavorting about the country at even that rate, new problems in highway regulation are to be solved. On the other hand if these machines can be propelled on prepared roads at a much greater speed than is attained by locomotives the commercial opportunities for them may be immense. But meanwhile Mr. Beranger has to demonstrate to the world the success of his invention.—*Springfield Republican.*

THE New Brunswick Co. has not been able to close its factory yet, and the New Jersey Co. is still busy with the press of orders.

Trade Notes.

THE cutters in the rubber mills are choosing a bad time for striking when the new sole cutting machine can so easily do their work.

—Some months ago Mr. J. W. Cavanagh, who for years has owned a rubber store on School Street, Boston, fell ill and died. His brother came on from Washington to take his place, but he also died, and the store was then taken charge of by the mother, a lady ninety years of age. It is said that there are about \$5000 worth of rubber goods in stock which the old lady is desirous of closing out as soon as possible that she may be relieved of a care for which she is physically unfit. It would be not only a good business move but a deed of charity for some enterprising rubber man to take the goods off her hands.

—The Fairview House at North Woodstock, Vt., shelters Mr. Paine of the American Rubber Co., who is on a fishing trip. According to the Boston office he caught 360 trout in one day last year, in the same vicinity, and all are anxiously awaiting the report of the sport this year.

—The affairs of J. Francis Hayward are now amicably arranged, the creditors accepting either 25 cents cash, or 50 cents in notes to run 3, 6, 9, 12, 15 and 18 months. The trustees, Mr. Lewis Gillette, of the American Rubber Co., and Mr. Benj. L. M. Tower, of the law firm of Ball & Tower, of Boston, deserve much credit for their satisfactory and expeditious work. Mr. Hayward will soon put several salesmen on the road and will doubtless do a good business as he has a host of friends, and is widely known in the trade.

—Lyon & Grumman of Bridgeport, Conn., are making a special push on rubber goods this season and meeting with remarkable success.

—The Easthampton (Mass.) Rubber Thread Mills have closed for a short time for needed repairs on machinery.

—Burglars broke into the store of the Omaha Rubber Co. recently and got away with some tennis shoes, rubber coats, gloves, and other small articles. The cash drawer and safe were not tampered with.

—A special machine for milling straight moulds of any length up to 18 feet has been lately erected by the Lockwood Mfg. Co., of East Boston, Mass. This Company have an exceedingly large and modern plant, and are devoting themselves particularly to the manufacture of rubber moulds of all kinds; and also to general rubber repair work. For this they have some of the best machinists in the country, and are sparing no pains or expense to fit up for anything in this line.

—Since the strike of the workers in the zinc factories, the rubber trade have been looking far and wide for white oxide of zinc. It is not probable that they will be seriously troubled in this respect, although it did look at one time as if some lines of goods would be crippled in their output for a while.

—It is gossiped that the wringer manufacturers will soon put up a large factory in Woonsocket, R. I., and instead of purchasing their rubber rolls from various manufacturers, will make their own. That they can do this with economy cannot be doubted; for on one size alone they will make a million rolls a year. It is said that one of the largest manufacturers of wringer rolls has been approached by them with an offer for his moulds; but whether he has considered it seriously is not known.

—L. D. Apsley, president of the Goodyear Gossamer Co., at Hudson, Mass., will spend the months of July and August at Swampscott, where he will be within easy touch of his factory, and his new store in Lowell, and yet be able to enjoy the benefits of the sea-shore vacation.

—The Grinnell Automatic Sprinkler, so well and favorably known to the rubber trade, is getting an exceedingly strong hold across the water, particularly in England, where many of the conservative papers are speaking very highly of it; which it deserves with its remarkable record of incipient fires extinguished, and property saved from loss.

—Mr. H. D. Warren, president of the Gutta Percha & Rubber Manufacturing Co., of Toronto, Can., recently called at the office of THE INDIA RUBBER WORLD. He talked pleasantly and interestingly of rubber matters across the line. His company is now doing a large business both domestic and export and have a factory that is as well equipped as any of equal size in America.

—Clogs for the city and sandals for the country. Pretty soon our dealers will be distributing shoes after this manner as in years before. The tennis goods season encroaches more and more on midsummer dullness, and some factories have not had a chance yet to shut down for cleaning and repairing, orders coming in such a way as to daily postpone this needed cessation. But the last order is looked for now in tennis shoes, and dealers are thinking about the outlook for clogs, sandals, storm slippers and kings and queens overs, croquets, and every other appellation found in rubber lore. No one of them wishes their fellow creatures any harm, but a dry season is not specially prayed for.

—Cornelius Calahan, of Boston, has secured a contract for 10,000 feet of hose for the New York Fire Department. It is reported that a low price was named for this lot, which is a fraction of the annual requirements of the department.

—Mr. Joseph Banigan, president of the Woonsocket Rubber Co., sailed on the 1st for Europe. Mr. Banigan will be absent about three months, and during that time will partake of the pleasures of a coaching trip.

—The patents on carbolized hose expired about a year ago, and this article is now open to competition of all. The Government has used a large quantity. Prices lately have fallen off considerably in the competition for this trade. It is claimed in some quarters that the life of the hose is not prolonged by carbolization. As a matter of fact nearly all manufacturers have used and do sprinkle now a little carbolic acid on the duck of their hose, more for the purpose of deodorizing the goods than anything else.

—Frederick Sharp, of Pittsfield, Mass., has opened his new "Berkshire Rubber Store," which is said to be very handsomely fitted.

—Charles F. Holcomb, who has been connected with the Savings Bank of Stafford Springs, Conn., the past two and a half years, has been elected treasurer of the Canfield Rubber Company of Bridgeport.

—Lowenthal & Morgenstern's rubber factory, corner of Provost and 8th Streets, Jersey City, recently suffered slightly by fire. An alarm was quickly responded to by the firemen in their district; but the flames spread so fiercely that a second and third alarm were given. The loss on building and stock was about \$1000; fully insured. The fire originated from the heater in the drying-room. This is the third fire occurring in the same place within a few weeks.

—Six months ago the citizens of Galesburg, Ill., purchased 250 lots from the rubber company, thus giving them a bonus of \$50,000. The company represented that they had a large capital and with this money they would erect a large plant. Every one was surprised, therefore, when the work was stopped by an injunction issued by one of the company. The incorporators of the company were J. B. Coate, C. H. Shearly and others and were known as the Galesburg Rubber Co.

—The Metropolitan Rubber Co. is devoting much attention to the making of fruit jar rings of all sorts, including Lightning and Melville. The latter is square cut and the former flat cut. Orders are being turned down for these goods. The two tubing machines are working night and day to keep pace with the demand. A good business is being done also in gaskets and mechanical goods. Mr. G. M. Ayres of the mechanical department has returned from his vacation, having grown ten pounds sideways.

—J. W. Wallace, of the American Rubber Co., has returned from a visit to the factory. The company has just set up the new calender which Mr. Evans bought when in Europe. It is the only one of the kind in this country, and the officers of the establishment are very much gratified with the character of work that can be done with it. Instead of the mackintosh cloth running over hot rolls, they are first passed over a hot table and then over the rolls cold. This allows the cloth to become perfectly dry before it comes to the rolls, and not only are blisters and other deleterious factors avoided, but the fabric comes out with a soft woolly feeling to the touch as contrasted with the hard "tinny" sensation common to ordinary calendering. The machine will turn out seventy-five mackintoshes per day. The factory now employs 1200 hands; and has a hungry way of eating up fourteen tons of coal in a day of ten hours. Already the demand for goods has become large, the trade from St. Paul, Chicago, and near by points being very gratifying.

—The gutta percha people in London have lately advised their agents in the country that it will be useless to take any more large orders for tissue. The supply is all needed for cable work. Orders for forty and fifty pounds from any one source are still supplied, but larger ones are evaded. Probably tissue will pass into the realms of the past before many months.

—Rubber men who have been in the habit of making large purchases of linseed oil are doubtless gratified at the drop this product has taken within a short time, about twenty-five per cent. The seed itself has gone down and it is understood that the situation is accentuated by a competitive war with the Trust by outside dealers. The new crop has not yet come in and information about it is not readily obtainable, but this seems to be a season of plenty with Dame Nature, that ancient female overdoing herself in every direction, and seed will probably be plenty.

—The Atlas Rubber Co., whom we mentioned a few weeks ago as having moved into new quarters on Greenwich Street, New York, met with considerable loss in the shape of a fire, which started in an adjoining building late at night June 15. The ceilings of the store were much damaged, and the manufacturing part was rendered temporarily uninhabitable. The goods were only slightly damaged as they happened to be largely in the original packings which shed the water drippings very effectually. The loss is estimated at about \$5000, fully covered by insurance. With commendable energy and enterprise all hands went to work to restore order out of chaos, and in two weeks' time everything was placed in trim to catch up with a business that allows no one to flag.

—Since the threatened jailing of the New Haven directors railroad men have shown considerable activity in the steam heating equipment line. This necessitates a large demand for hose. The connections between the cars are double, in lengths of about thirty inches on each end, and as the usage is peculiarly rough renewals are frequent. Dealers look for large sales before the winter season sets in. Railroads in States where there are no mandatory laws are in deference to public sentiment providing steam heat, without reference to doubts as to whether this system is the best in practice or not.

—The Peerless Rubber Co. sold the railroads last season one order of 4000 feet of hose for steam heating. They have not yet heard of a single complaint, which in itself proves its excellent quality. Some large contracts are expected this season. The company is placing a quantity of new machinery in its factory, which rendered it necessary to close down for a few days. Among other things are a new cracker and a couple more mills.

—The Rubber Specialty Manufacturing Co., which recently moved from 335 Broadway, New York, is having a large demand for its water bags. These articles are of excellent quality and prepared in very good taste. The rubber is masked by a cloth exterior in stripes and different shades. The company has also sent out a new advertising device in the shape of a hard India rubber comb made in the form of a dagger. This has been adopted by many firms who make a point of placing useful and attractive novelties of this sort in the hands of possible customers.

—Never has there been a better season for fruit jar rings. The first crop has been a large, in fact, a mammoth one, and the demand for jars is unprecedented. A light stock of rings was carried over last October, the demand last season being light, and the manufacture of a new supply was neglected. This year it is believed that a million pounds have been sold. There are two sorts of rings in the market, styled respectively the Pure and the Composition. The former sells for about 70 cents and the latter for about 30 cents per pound. The latter is used for porcelain and the former for glass jars. Of course there is not a large percentage of rubber used in the manufacture of rings, still prices do not yield more than a living profit. In fact, jar rings and wringer rolls are placed in the same category, good enough for dull times.

—The Boston Belting Co. report an excellent demand for all articles. They are now placing in their mills more machinery, their present plant being inadequate. The export business is constantly growing.

—Mr. Henry Smythe, of New York, left June 17, for a trip to Europe. He will probably visit his factories in the South of France before he returns.

—J. A. Tucker & Co., of 115 High St., Boston, whose leather jackets have already begun to be sold in many rubber stores, have this year gotten out a very neat advertisement that is attracting wide attention. This is nothing less than a tiny leather jacket which is pasted upon a little folder, and sent out as a circular. As it is made very neatly, and is an excellent imitation of the jackets worn by such a wide constituency, it has attracted complimentary attentions among many dealers, and has been the direct source of good orders.

—A little booklet that will be of interest to the rubber manufacturers, or indeed to all who use heat for any manufacturing processes, is the new illustrated catalogue of the temperature controlling devices manufactured by the New England Fire and Heat Regulator Co., 70 Pearl Street, Boston. This pamphlet contains cuts of vulcanizers and dry heaters, with temperature controlling devices attached, with descriptions of the same, with testimonials from rubber companies. It also shows a variety of thermometers and kindred devices, manufactured by the well-known Standard Thermometer Co., for which this firm are agents.

—Mr. Frank H. Macartney, of the firm of Macartney, Haines & Co., at 23 South Eighth Street, Philadelphia, while taking a canter through the park in company with a number of friends was thrown from his horse on the river drive, near the Falls. Fortunately he sustained no injuries beyond a severe shaking up.

—At a recent convention of the car builders held at Cape May, N. J., was one well-known to the railroadmen of the country, C. H. Dale of the Peerless Rubber Mfg. Co. Mr. Dale had a fine exhibit of the goods manufactured by his firm, and seemed to be making quite an impression upon the buyers gathered there. Speaking of his rainbow packing, he was heard to say solemnly that a special advertisement of it that he intended to have secured failed him at the last moment; the interested auditor wanted to know what it was, and he replied that it was a natural rainbow stretching from Cape May Light to the Stockton House, on which should be printed Peerless Rubber Mfg. Co.

—Among others who attended the same convention were Walter G. Chase, the treasurer of the Mason Regulator Co., of Boston, who as usual had some advertising novelties that made a deal of fun in the assembled multitude, and that served to advertise his regulating devices very effectively. One of these was a very neat box of tissue wrapped caramels, which he distributed largely among the lady guests at the leading hotel. The caramels when opened proved to be brown cubes of wood, that contained a quaint advertising device that in that connection was sure to be read. Another plan of this versatile gentleman was to distribute an infinitesimal tin horn, which had a voice out of all proportion to its size, and which contained a holiday circular that was original and witty and provoked lots of fun. To see these horns on the tally-ho coaches, and to hear them blown at all hours of day or night, was to appreciate the fact that the Mason Regulator Co., were being well remembered.

—A neat catalogue comes to us from the Millard Manufacturing Co. of Providence, R. I., illustrating and describing twenty different styles of atomizers of their make, together with a variety of other druggists' sundries. In addition to their rubber specialties this company are making all kinds of metal fittings for syringes, atomizers, etc.

—Mr. Pratt, the manager of the Elastic Tip Co., of Boston, Mass., is off on a business trip through the West.

—A new substitute called Ruberoid is being introduced to the rubber manufacturers.

—Marcus M. Hill, formerly of the Fall River Rubber Co., is at his home in Andover, Mass., for the summer.

—Mr. J. F. Eldridge, formerly with the Hodgman Rubber Co., in Boston, has gone to Chicago to represent the Massachusetts Rubber Co. of Reading, Mass., and will handle their rubber clothing in that part of the country.

—Mr. Wm. Keys has opened an office at 67 Chauncy Street, Boston, Mass., where he has samples of clothing and sundries manufactured by the India Rubber Glove Co., of New York. His territory on these goods is the whole of New England.

—The Hall Rubber Co., of Portland, Maine, have put in a four horse-power Sprague Electric Motor to run the machines for stitching gossamers.

—The Columbia Rubber Co., of Boston, are to move their Woburn factory from its present location, and will occupy the entire upper part of a fine new building on Park Street, Woburn, Mass.

—The Colchester Rubber Co., of Colchester, Conn., have taken their usual summer vacation of two weeks, during which time they take stock and overhaul the machinery for the fresh start.

—Hon. E. S. Converse, of the Boston Rubber Shoe Co., takes a vacation trip to Europe this summer, his plans being to return to Boston about the first of September.

—The Rubber Works in Jonesboro, Ind., have commenced operations. They will employ about three hundred people when in full blast.

—A rubber roofing factory has been opened at Shorey, Kansas.

—Harry B. Walmsley, of Beverly, Mass., has just been allowed another patent on a metal set-screw protector. The rubber protector is meeting with good success, and orders have been received from North & Squires, the great pork packers, to equip their factories, for which 9000 protectors will be required.

—Eighteen employes of the Canfield Rubber Co., in Bridgeport, Conn., went on strike recently because George Lockwood, an old employe of the company, was appointed foreman of the room. The men are satisfied with the wages paid for their labor, but for some reason dislike Mr. Lockwood. The company say that Mr. Lockwood is their choice for the position and that he will remain.

—The Marlboro (Mass.) Rubber Co. has made several changes in the interior of their store which were rendered necessary by the increase in the stock of goods carried and the consequent demand for more room.

—The Tuttle rubber works of Holyoke, Mass., are compelled to run night and day in order to fill their orders and are putting in new machinery which will add fully one-third to their capacity. The entire product is taken by one large jobbing house which has offices in all the leading cities, both East and West, and there is hardly a portion of this country to which the company's product does not find its way.

—Officials of the Boston and Albany's Lake and Rail Line recently openly admitted that they had made a forty-one cent rate on rubber boots and shoes to St. Paul.

—With a capital of \$350,000 the Boston Woven Hose & Rubber Company has received its certificate of incorporation, Theodore A. Dodge being president and J. Edward Davis, treasurer. The fee paid, \$175, is within \$25 of the highest which the Boston office can by law receive.

—Rumors are being circulated to the effect that the Pará Rubber Shoe Co.'s factory will start up again in July, but no one is able to vouch for the truth of the statement.

—The rubber factories of T. Martin & Bro., Chelsea, Mass., shut down for a week beginning July 4, to make necessary repairs.

—At the meeting of the Pará Rubber Shoe Company, recently held at its office in High Street, the following gentlemen were elected as officers and directors of the company: William T. Hart, president; Alpheus H. Hardy, treasurer; directors, president and treasurer ex-officio, Edward T. Mason, Montgomery Sears, S. D. Warren, William O. Grover, J. M. Dennison, Clement S. Houghton, George F. Clapp.

—Thomas A. Bell, secretary of the Star Rubber Co., of Trenton, made an assignment recently of his property to Linton Satterthwaite. He was also a stockholder of the Central Rubber Selling Company, Trenton China Company and the New Jersey Flint and Spar Company. These concerns are also involved in the troubles of the Star Rubber Company.

—Just now when rubber is high, people wonder what becomes of the vast amount of it that is imported. One answer to this unspoken query would be that bicycle tires alone consume over a million pounds of Pará rubber yearly, and the demand is constantly increasing.

—William DeLong, of DeLong, Betts & Co., the well-known broker has crossed the ocean 102 times. He has gone afoot through the greater part of Scotland, and has travelled extensively in England, Ireland, Germany and France. Once or twice he has gone to Central America. Three or four months each year has been his allotted time for globe trotting, but this summer he has made up his mind to remain at home and watch the market.

The "CLARK" WIRE



INSULATION GUARANTEED WHEREVER USED, AERIAL, UNDERGROUND OR SUBMARINE.

In a letter from the Inspector of the Boston Fire Underwriters' Union, under date of March 29, 1886, he says:—
"A THOROUGHLY RELIABLE AND DESIRABLE WIRE IN EVERY RESPECT."

THE rubber used in insulating our wires and cables is especially chemically prepared, and is GUARANTEED TO BE WATERPROOF, and WILL NOT DETERIORATE, OXIDIZE OR CRACK, and will remain flexible in extreme cold weather, and is not affected by heat. The insulation is protected from mechanical injury by one or more braids, and the whole slicked with Clark's Patent Compound, which is water, oil, acid, and to a very great extent fire-proof. OUR INSULATION WILL PROVE DURABLE WHEN ALL OTHERS FAIL. We are prepared to furnish Single Wires of all gauges and diameter of insulation for Telegraph and Electric Lights from stock. Cables made to order. We are now prepared to furnish our Clark Wire with a WHITE OUTSIDE FINISH for ceiling cleat work as well as our standard color.

CLARK JOINT GUM should be used for making water-proof joints. This is put up in half-pound boxes, in strips about one foot long and five-eighths inch wide, and when wrapped about a joint, and pressed firmly makes a solid mass.

FOR RAILWAY AND MOTOR use, we make all sizes of stranded and flexible cables with Clark insulation. Wire Tables and price list will be furnished on application to

HENRY A. CLARK, Treasurer and General Manager.
HERBERT H. EUSTIS, President and Electrician.

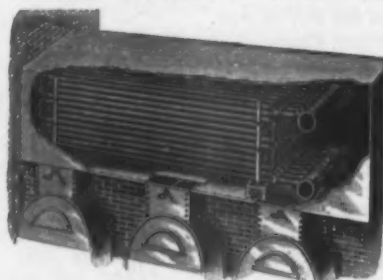
EASTERN ELECTRIC CABLE COMPANY,

61 to 65 Hampshire Street, Boston, Mass.

Mention the India Rubber World when you write.

THE HUSSEY RE-HEATER

Steam Plant



THE HUSSEY RE-HEATER.

PROPRIETORS of the HUSSEY RE-HEATER, for Re-Heating Exhaust Steam and rendering it available for all heating purposes, in place of live steam, without cost for fuel.

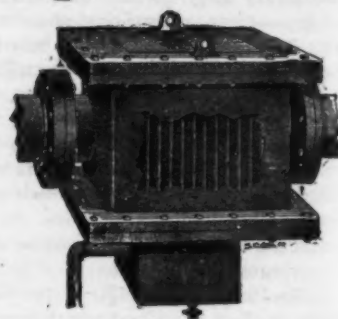
—AND—



HUSSEY BACK PRESSURE VALVE.

Operates Without Lever or Weights and Without Noise or Hammering Action.

Improvement Co.



PEERLESS GREASE EXTRACTOR.
WARRANTED to deliver Exhaust Steam, and Water of Condensation ABSOLUTELY PURE

Practical and Consulting Experts in all matters pertaining to Economy in Steam, and its use for Power, Heat and Ventilation.

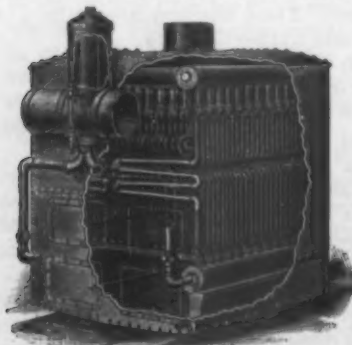
STEAM PLANTS DESIGNED, ERECTED, OR IMPROVED.

NO. 15 CORTLANDT ST., NEW YORK, U. S. A.

The Hussey Re-Heater System and other Steam Plant Specialties supplied by this Company, are SPECIALLY ADAPTED to Rubber Manufacture.

Mention the India Rubber World when you write.

Descriptive and Illustrated Circulars sent on application.



ALMY'S PATENT SECTIONAL WATER TUBE BOILER.

THE RESULT OF CAREFUL EXPERIMENT.

Rapid Evaporation, Parts Easily Accessible, Circulation Positive and Rapid, Dry Steam Absolutely Assured.

ADAPTED FOR STATIONARY OR MARINE WORK.

SIZES 3 TO 50 SQ. FEET OF GRATE AREA.

Write for Catalogue No. 2.

ALMY WATER TUBE BOILER CO., Providence, R. I., U. S. A.

Mention the India Rubber World when you write.

The Rubber Market.

DURING the past month the market has been dull at the expense of quotations. Actual sales have been made at 80 cents, and manufacturers are looking for about 75 cents, meanwhile they are buying in very small quantities and only for actual needs. At this point one of the parties who is popularly ascribed as a "bear" authoritatively states that he is a "bull." Baron de Gondoriz is in England where he has established a branch house in London. This would signify that he intends to extend his operations in the future forming a closely-knitted chain of houses which will enable him to closely watch affairs and take advantage of opportunities more promptly than ever.

He has raised from Rio and Pará sources \$750,000 with which he can take care of distressed lots so annoying to holders that would be glad to see the market advance, but are always in the position of being in a constant fear from day to day that the market through some disaster will fall from beneath them. It was his disposition to establish a branch house in New York and this move may only be temporarily postponed. Affairs here may be to his mind, however, and the further prosecution of the subject abandoned.

The arrivals at Pará are light as is natural at this season, and are less than last year.

The receipts at Pará this month by cable reports of the 10th were 110 tons, which would make an estimated deficiency for the month as compared with the same time one year ago 150 tons. Prices are reported at 3800 milreis for Islands with exchange at 17½d. The river is rapidly falling and receipts naturally now will be light. Coarse is quoted at 2400 milreis. Transactions on the river are mainly if not altogether in lots of two to twenty tons.

The stock in Liverpool of fine Pará June 1, was 1201 tons. Importations during the month were 605 tons, and the sales and deliveries were 342 tons, leaving in first hands a total of 1464 tons. In 1889 the market was dull, there were 434 tons in stock, and prices were 3s 9d for fine Pará; in 1888 there were 1020 tons, the market was dull, and prices were 2s 8d; and at the close of last month the market was dull, with prices at 3s 6d, closing at 3s 4d. There were 245 tons coarse Pará in stock on that date.

Ceará was quiet with 204 packages. Mangabeira dull with a sale of a few tons. There had been considerable doing in Africans with sales of about 150 tons. Sierra Leone was quoted 1s to 1s 9d; Thimbles medium quiet at 1s 7½d; fair Tongue 1s 7d. Stock 717 tons. Prices by cable are reported at 39½ d.

The receipts at New York for the month have been:

	Fine.	Medium.	Coarse.	Caucho.	Total.
June 22, <i>Clement</i>	195,100	30,700	101,400		327,000 lbs.
" 24, <i>Allianca</i>	43,900	4,900	27,600		76,400 lbs.
July 6, <i>Vigilanca</i>	29,300	3,200	23,400		55,900 lbs.
" 9, <i>Theresina</i>	58,900	4,300	22,000	64,700	150,100 lbs.
" 10, <i>Cyril</i>	54,800	8,300	24,500	41,300	128,900 lbs.

A total of 738,300 lbs.

Of this there have been small shipments to Liverpool. The *Anne R. Bishop* arrived during the month at Providence with 80 tons Pará, and there were from the above about 300 tons bound to the same destination.

In transit for New York is the *Basil* with 40 tons Pará, and 55 tons Caucho, and the *Advance* with 20 tons Pará. Stocks in New York are 1197 tons fine, 275 tons coarse, and 157 tons Caucho.

Centrals and Africans are in light supply, and in light request also. Receipts of Centrals are coming via New Orleans.

Simpson & Beers report money market firm for three and four months' paper at 6½ @ 7 per cent.

The demand for rubber paper is from outside sources, city bankers doing nothing, and all hands moving in a conservative manner.

June 30, 1891.

Statistics of Pará Rubber.

Stock of Pará here May 31,	about	3,350,000 lbs.
Receipts " " June	"	708,000 "
Deliveries " " June	"	758,000 "
Stock " " June 30, 1891,	"	3,300,000 "
" " " " 1890,	"	700,000 "
" " " " 1889,	"	1,325,000 "

Prices for June.

	1891.		1890.		1889.	
	Fine.	Coarse.	Fine.	Coarse.	Fine.	Coarse.
First...	87	57	91	67	66½	42
Highest.	87	57	92	68	66½	42
Lowest.	81	52	91	66	65	40
Last....	81	52	91	68	65	40

The latest New York quotations are:

Para, fine, new...	81-80	Tongues.....	35-36
Para, fine, old...	84-83	Sierra Leone.....	39-45
Para, coarse, new...	48-50	Benguela.....	44-45
Para, coarse, old...	57-54	Congo Ball.....	38-44
Caucho (Peruvian) strip	47-42	Small Ball.....	39-41
Caucho (Peruvian) ball	49-50	Flake, Lump and Ord	25-25
Mangabeira, sheet.....	40	Mozambique, red ball.....	
Esmeralda, sausage.....	50	Mozambique, white ball.....	
Guayquil, strip.....	40-42	Madagascar, pinky.....	87
Virgin scrap.....	45-33	Madagascar, black.....	45-53
Carthagea, strip.....	45-33	Borneo.....	32-42
Nicaragua, scrap.....	45-48	Gutta percha, fine grade.....	140@112
Nicaragua, sheet.....	45-43	Gutta percha, medium.....	100
Guatemala, sheet.....	38	Gutta percha, hard white.....	100
Thimbles.....	40-44	Gutta percha, lower sorts.....	60-85

In the distribution of rubber goods this is the dull season, and no considerable activity is expected. Still the volume of sales equals expectations and complaints are more in the way of talk than because there is any real reason for pessimistic expressions. Large companies who twenty-five years ago declared monthly dividends find a difference in these times when one is only declared after the year's business is footed up. Dividends now are satisfactory, but officers and employes cannot help recalling those days and comparing them with what exist now.

Mechanical goods are in fair request. One or two companies are doing an excellent business in all branches, and a good export inquiry is noted. Germany, it is claimed, is buying our goods freely, and that they are liked is noted by the advertisements in their papers which hasten to describe their home fabrics as "made after the American style."

Jar rings have been very active, and all the miscellaneous articles, such as tubing, are in good request. In hose there is great rivalry among the contestants for public departments, and some large contracts have been secured at very low prices. Railroad men are making large contracts also, the race towards steam heating of cars by all companies creating an excellent demand. The bicycle tire business has been a very large one this year.

Clothing is dull and the factories are taking more than the customary midsummer holiday. Yachting and steamer novelties usually carried by clothing men have met with a good sale, and the close study that rubber men give to every little convenience or comfort for the sea or the camp is bringing very fair reward.

In boots and shoes there are good signs of approaching activity. Large shipments to the Northwest have been made to take advantage of the low rates of freight, although with the immense crops to be moved this way it is hardly necessary to be in haste.

The mills are taking a scant shut down this season. In tennis shoes the business has been an excellent one; signs of cessation in it are now plainly apparent, but all hands are satisfied.

Webbing is very dull, and prices are being shaded. Rubber thread is firm.

Waterproofing and the Tariff.

THE ambiguity of the McKinley Tariff Bill and the carelessness with which some of the provisions were drawn are causing an uncomfortable feeling in many directions; and the waterproof cloth men are among the number. The provisions of that law provide that goods manufactured in part of India rubber shall pay 30 per cent. ad valorem. Another clause says that hard rubber manufactures shall pay 35 per cent. Another clause says that ready-made clothing shall pay 50 cents per pound and 50 per cent. ad valorem. Woolen cloth and fabric are charged with 33 cents per pound and 40 per cent ad valorem. Silk goods containing India rubber pays eight cents per ounce and 60 per cent. ad valorem.

The provision regarding ready-made clothing seems to be prohibitory enough and English makers are manufacturing up their cloth in this country. But they insist that the cloth shall come in as rubber manufactures and pay only 30 per cent. ad valorem, where our own manufacturers have always believed it was chargeable with the tariff of 33 cents per pound and 40 per cent. ad valorem, or approximately 90 per cent. There is a provision in the McKinley law that goods shall bear such tax on the whole as may be applicable to their most costly part. Herein seems to be a nice question. J. Mandleberg & Co., of Manchester, have sent over a few short pieces of goods evidently as test cases, and have demanded of the custom house authorities that they be entered as manufactured rubber goods. Without rendering any decision the appraisers began an investigation, and have called in experts who have testified.

The hearing is not yet concluded and no decision, of course, reached.

The importers have testified that the rubber part is the most costly in all cotton and woolen goods except those of double faced cotton. The testimony is that it will take six ounces of rubber to make one yard of cloth sixty inches wide, and that it should cost 95 cents of which 27 cents are for rubber and 5 cents for manufacture.

The manufacturers so far are at fault in not having any reliable data as to the cost of manufacturing cotton and woolen goods abroad, and ex parte statements are all that can be obtained.

The appraiser seemed to be at a loss for a proper decision, and concluded that he would have the goods analyzed and so determine the exact proportions of rubber, cotton and wool in them. To this the importer demurred, and unconsciously prejudiced his case. He claimed that his compositions and combinations were secrets acquired by long experience and labor, and that an analysis would be an unfair exposition. Samples of the goods were, however, obtained and the hearing was adjourned until July 16.

The decision will be a far-reaching one. Should the cloths be classed as manufactured rubber under the 30 per cent. tariff, no benefit will be derived from the McKinley law. The manufacture of cotton and woolen cloths can be carried on more cheaply in England than in America for various reasons. Labor is the chief factor, but there are others. Manufacturers in England are better equipped for everything that is economical.

Their machinery is for wide cloths and it represents a large outlay which cannot for the moment be practically met in this country.

A peculiar feature of the subject is that the better the rubber in the English goods the cheaper will be the text up to a certain line which is that the rubber must cost more than the other constituent parts. That line of course must be calculated with nicety; if the present samples do not carry the day, there may

be an advance in wages over there, or something of that nature to give the rubber part necessary cost.

At all events the question is an interesting one and will be awaited with anxiety.

Vulcanizing Rubber by the Cold Process.

UNTIL quite recently it has been generally conceded that in the vulcanization of rubber in the cold way by treating with a solution of chloride of sulphur in carbon bisulphide, the sulphur was the active agent in the vulcanization and that the chlorine was separated in the form of hydrochloric acid. This has been proven to be the case in vulcanizing by the aid of heat. Thomson's investigations, however, (*Bayer. Ind. Gewert. Blatt.*) have demonstrated that in the cold way the role of vulcanizer is played by the chlorine. He discovered in these investigations that the quantity of chlorine present far outweighed the sulphur. That the chlorine was chemically and not mechanically combined was shown by the fact that it could not be removed by treatment with water. From these observations he deduced the statement that the higher chlorides of sulphur make the rubber too hard, because in their decomposition, in the course of vulcanization, too great a quantity of chlorine is liberated. This statement applies also to rubber substitutes such as are obtained by treating rape, linseed and other kinds of oil with a solution of chloride of sulphur.

THE Lambertville Rubber Works, of Lambertville, N. J., after a summer shut-down of two weeks for the repairing of machinery, have started up their mill again on full time.

Free Want Department.

A YOUNG MAN of 25, active, well educated, and well acquainted with the trade in New York City and vicinity, wishes to represent some first-class Rubber goods Mfr., or to take charge of City office. Please address "S" Room 293, Potter Bldg., New York City.

A YOUNG MAN experienced in the general rubber business, desires a position as salesman in some good house or on the road. Best of references. Address Position, INDIA RUBBER WORLD Office.

ADVERTISER, who enjoys a large and lucrative trade in mechanical goods in Pennsylvania, and adjacent States, is open for an engagement. Has a long acquaintance with his trade, who generally require high grade goods. Can bring unquestioned record, large experience and unstinted energy. Would not object to the South or West, as manager or representative. Address Mechanics, care INDIA RUBBER WORLD.

A YOUNG MAN twenty two years of age, who has had three years' experience making mackintoshes, desires a position at any kind of work in a rubber factory. Address E. Fried, 20 Rutgers Place, New York City.

WANTED—Salesmen for South West, North West and Eastern States to carry a line of rubber clothing, oil clothing, gossamer and mackintosh clothing on commission. A good man can make \$25.00 to \$75.00 per week. Address giving reference, Smith, INDIA RUBBER WORLD.

WANTED—A thoroughly competent superintendent to take charge of a rubber factory equipped for the manufacture of belting, packing, hose, and all other mechanical rubber goods, also boots and shoes. Apply at once stating experience and references. A first-class salary to a competent man. Address "B. B." INDIA RUBBER WORLD Office.

FOR SALE—A semi-circular corrugated iron roof, size 16x38 feet; suitable for a boiler or storehouse. Write to or inquire of TYER RUBBER CO., Andover, Mass.

FOR SALE—Complete Rubber plant for gossamer business with sewing machines, etc., or would let with privilege. Address W. F. OSBORN, Ansonia, Conn.

WANTED—A first-class salesman for a house carrying a general line of rubber and oil clothing, and boots and shoes. Address, stating previous experience and former route of travel, C. C., INDIA RUBBER WORLD Office.

SALESMAN (fourteen years experience on the road and in New York City, Brooklyn and surrounding territory) is desirous of obtaining position with a first-class rubber clothing manufacturer. All references. Address Salesman, 234 Sixth Avenue, New York City.

WANTED—To purchase or rent for short time with option of purchase a rubber factory containing all necessary machinery and appliances for manufacturing hose and press goods. Immediate possession. Address H. N. W., INDIA RUBBER WORLD.

